

Final Examinations

of Some Governorates



2022

1 Cairo Governorate

Loaders Language School

Answer the following questions :

Question 1

A Complete the following sentences :

1. Mosely put and series below his periodic table.
2. During chemical reaction, metals tend to outer electrons taking the structure of the nearest noble gas.
3. Iodine is found in state, while bromine is found in state.
4. were the first vertebrate appeared and followed by

B Write the scientific term of each of the following sentences :

1. Two magnetic belts help in scattering of harmful cosmic radiations away from the Earth.
2. An ozone pollutant that is used as an insecticide.
3. A water pollutant that causes death of brain cells.
4. Descending arrangement of metals according to their chemical activity.

C Represent the next reactions by balanced chemical equations :

1. Reaction of magnesium oxide with water.
2. Reaction of bromine with potassium iodide.

Question 2

A Give reasons for :

1. Mammoth fossil is preserved as a complete body fossil.
2. The simple ecosystem is severely affected by absence of one of its species.
3. Increasing CO_2 gas percentage in the atmosphere.
4. Cesium is the strongest metal in the modern periodic table.

B Cross out the odd word, then write the scientific term of the rest :

1. Sodium / Cesium / Lithium / Chlorine.
2. Silicon / germanium / Magnesium / Tellurium.
3. Freon / Water vapour / Halons / Nitrogen oxides.
4. Aneroid / Barometer / Hofmann's voltameter / Altimeter.

C Problem :

Find the temperature at a point of height 3000 meters above the sea level, if the temperature at the sea level is (30°C).

Question 3**A Choose the correct answer :**

- layer in atmosphere that is suitable for flying planes.
a. Troposphere b. Stratosphere c. Thermosphere d. Mesosphere
- discovered the main energy levels in the atom.
a. Bohr b. Mendeleev c. Mosely d. Rutherford
- causes blindness when its ratio increases in drinking water.
a. Arsenic b. Iron c. Lead d. Mercury
- is used in preservation of eye cornea.
a. Liquefied sodium b. Liquefied nitrogen
c. Silicon d. Cobalt

B Write one importance of :

- Exosphere layer.
- Ras Mohamed protectorate.
- Foraminifera microfossil.
- Ferns fossil.

C Locate the following elements in the modern periodic table :

- ${}_{19}\text{K}$
- ${}_{10}\text{Ne}$

Question 4**A What happens when ... ?**

- The sediments fill up the empty snail, then the outer shell is decomposed.
- We go from up to down in group 7A.
- Hydrogen bonds were absent between water molecules. (concern boiling point).
- Halogens react with metals.

B Put (✓) or (✗), then correct the false one (s) :

- Meteors are formed in the thermosphere layer. ()
- Infrared radiation has chemical effect. ()
- Petrified fossil was formed by replacing organic substances with minerals. ()
- Dinosaurs were extinct due to over hunting. ()

C Mention the number representing each of the following :

1. Thickness of stratosphere layer.
2. Temperature at the top of mesosphere.

2 Cairo Governorate

Manor House International School

Answer the following questions :

Question 1

A Complete the following sentences :

1. Mendeleev arranged the elements ascendingly according to
2. The highest temperature layer in the atmosphere is
3. $\text{MgO} + \text{H}_2\text{O} \longrightarrow$
4. Dodo bird is from the bird.

B Correct the underlined words :

1. Copper reacts instantly with water and hydrogen gas evolved.
2. Panda bear is considered from extinct species.
3. Inert gases have the properties of metals and nonmetals.
4. All weather phenomena like rain, wind and clouds occur in the ionosphere layer.

C What happen when ... ?

Decreasing the temperature of water to less than 4°C .

Question 2

A Choose the correct answer :

1. replace(s) the wood organic material, part by part of an old tree.
a. Plastic b. Iron c. Minerals d. Copper
2. Ozone layer is found in layer.
a. troposphere b. mesosphere c. thermosphere d. stratosphere
3. The density of ice is the density of water.
a. less than b. more than c. equal to d. double of
4. The atomic number of an element that exists in group (7A) and period (2) is
a. 12 b. 7 c. 9 d. 17

B Put (✓) or (✗) in front of the following statements :

1. The atomic size decreases in the same group as atomic number increases. ()
2. The air moves horizontally in the lower part of stratosphere. ()
3. Amber is a complete body fossil. ()
4. Halogens are monovalent elements. ()

C Problem :

If the temperature at the sea level is 20.6°C . Find the temperature at the top of a mountain of height 2 km above Earth's surface. [Don't forget the rule].

Question 3**A Write the scientific term of each of the following sentences :**

1. It's the addition of any substance to the water which causes continuous gradual change in water properties affecting the health and the life of living creatures.
2. The death of all members of species of living organisms.
3. A device that is used to measure the elevation above the sea level.
4. The radioactive element that is used in food preservation.

B Mention one example for each of the following :

1. Halogen is found in solid state.
2. Fossil of a complete body.
3. Covalent compound cannot dissolve in water.
4. The strongest metallic element.

C Locate the following elements in the modern periodic table showing your steps :1. $_{13}\text{Al}$ 2. $_{10}\text{Ne}$ **Question 4****A Determine the odd word :**

1. Rhinoceros / Panda bear / Quagga / Bald Eagle.
2. Sodium / Potassium / Silver / Iron.
3. Sugar / Animal wastes / Lead / Mercury.
4. Bromine / Chlorine / Nitrogen / Fluorine.

B Mention the importance of :

- | | |
|------------------------------|----------------------------|
| 1. The ozone layer. | 2. The liquefied nitrogen. |
| 3. The Hoffman's voltameter. | 4. The aneroid. |

C Give a reason for :

Solution of carbon dioxide changes the color of blue litmus paper into red.
[Write your answer and the chemical equation that represents this reaction].

3 Cairo Governorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. The strongest nonmetal lies in group , while the strongest metal lies in group
2. is the coldest layer in the atmosphere, while is the hottest layer.
3. $2\text{Mg} + \text{O}_2 \xrightarrow{\Delta}$
4. is from extinct mammals, while is from endangered mammals.

B Mention one example for :

1. A covalent polar compound.
2. A device used to measure the atmospheric pressure.
3. An endangered plant.
4. Halogen in a liquid state.

C Problem :

If the volume of the gas evolved above the cathode of Hofmann's voltameter is 10 cm^3 .

Calculate the volume of the gas evolved above the anode.

And mention the name of the gas above the anode and the gas above the cathode.

Question 2

A Choose the odd word out, then write the scientific term of the others :

1. ${}_9\text{F}$ / ${}_6\text{C}$ / ${}_{35}\text{Br}$ / ${}_{17}\text{Cl}$.
2. CO_2 / O_2 / N_2O / CH_4 .
3. Cast / Fossil of a complete body / Fossil record / Mold.
4. Dodo bird / Bald eagle / Ibis bird / Rhinoceros.

B Put (✓) or (✗) in front of the following statements :

1. The modern periodic table consists of (17) horizontal periods and (8) vertical groups. ()
2. Potassium oxide is considered from basic oxide. ()
3. Ozone molecule consists of four oxygen atoms. ()
4. Temperature decreases by 6.5°C at 2 km above the sea level. ()

C Compare between :

The Fluorine (${}_9\text{F}$) and Cesium (${}_{55}\text{Cs}$)

(According to : 1- The kind of each of them.

2- Atomic size of each of them.)

Question 3**A Choose the correct answer :**

- Ozone degree is measured in a unit that is called
a. Km b. nm c. Dobson d. Pm
- Eating fish which contain high concentration of causes the death of brain cells.
a. mercury b. arsenic c. lead d. iron
- is an example of microfossils.
a. Fern b. Foraminifera c. Mammoth d. Amber
- The upper (3) layers of atmosphere contain of water vapor.
a. 1% b. 25% c. 75% d. 99%

B Write the scientific term of each of the following sentences :

- An arrangement of metals in a descending order according to their chemical activity.
- A phenomenon looks like a colorful light curtains seen at the two poles of the Earth.
- Remains of old living organisms that are preserved in sedimentary rocks.
- The continuous increase of the average temperature of the air near the surface of the Earth.

C What happens if ... ?

- Putting a piece of sodium in water.
- Harmful cosmic radiations collide with the ionosphere.

Question 4**A Choose from column (B) what suits it in column (A) in the following tables :**

(A) Probably harms	(B) Responsible pollutant
1. Blindness	a. sodium.
2. Death of brain cells	b. lead.
3. Cancer of liver	c. mercury.
4. Bilharzia and hepatitis	d. mixing water with human and animal wastes.
	e. arsenic.

1. 2. 3. 4.

2- (A)	(B)
1. Liquid sodium 2. Liquefied nitrogen 3. Cobalt 60 4. Silicon slides	a. is used in preservation of food. b. is used in manufacture of electronic device. c. is used in nuclear reactor. d. is used to easy studying of the chemical and physical properties of elements. e. is used in preservation of the eye cornea.
1.	2. 3. 4.

B Fill the following spaces :

1. Name of this group is
2. Atomic number of element (X) =
3. Atomic size of element (Y) is than atomic size of element (X).
4. The atoms of elements of this group form ion in the chemical reactions.

C Locate the following elements in the modern periodic table :

1. $_{10}\text{Ne}$

2. $_{8}\text{O}$

Li
Na
X
Rb
Y
Fr

4 Cairo Governorate

El-Helmia Official Language School

Answer the following questions :

Question 1

A Complete the following sentences :

1. Ultraviolet rays have effect, while infrared rays have effect.
2. Mendeleev arranged elements according to their, whereas Moseley arranged elements according to their
3. The hottest atmospheric layer is, while the coldest layer is
4. Elements of group (1A) are called, while elements of group (7A) are called
5. The strongest metallic element is, and the strongest nonmetallic element is

B Mention the importance of :

1. Cobalt 60.

2. Altimeter.

Question 2

A Give reasons for :

1. Pilots prefer to fly their planes in the lower part of stratosphere layer.
2. Liquefied nitrogen is used in preservation of the eye cornea.
3. Desert is a simple ecosystem.
4. Establishing natural protectorates.

B Locate the following elements in the modern periodic table :

1. $_{17}\text{Cl}$

2. $_{18}\text{Ar}$

C Compare between :

Troposphere and stratosphere, according to the atmospheric pressure at its top and its thickness.

Question 3

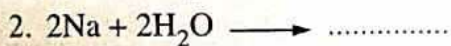
A Write the scientific term of each of the following sentences :

1. It is a weak electrostatic attraction force arises between molecules of polar compounds.
2. The ability of atom in the covalent molecule to attract the bond electrons to itself.
3. Remains and traces of old living organisms that lived in the past for certain period then became extinct.
4. Atmospheric layer that plays an important role in wireless communication.

B What is meant by ... ?

Atmospheric pressure.

C Complete the following equations :



Question 4

A Choose the correct answer :

1. Ozone layer is found in layer.
a. troposphere b. mesosphere c. stratosphere
2. is an example of extinct animal in the old age.
a. Dodo bird b. Quagga c. Dinosaur
3. is the measuring unit of the degree for ozone layer.
a. Picometer b. Dobson c. Nanometer
4. protectorate is the first natural protectorate established in Egypt.
a. Wadi Hetan b. Ras Mohammed c. Saint Catherine

B Calculate :

The temperature at the top of a mountain, if you know that the temperature at its foot is 27°C and its height is 3 km.

C What happens when ... ?

1. One of species in a complicated ecosystem extincted.
2. Concentration of mercury increases in drinking water.

What is/are the symbol which indicates the ... ?

1. Inert gases.
2. Halogens.
3. d-block elements.
4. Higher active metal.
5. Highest electronegativity element.

C Give an example of each of the following :

1. Extinct species in the old geological ages.
2. Greenhouse gases.

Question 3

A Write the scientific term of each of the following sentences :

1. It is the weight of air column of an atmospheric height on a unit area.
2. It is the addition of any substance to the water, which causes continuous gradual change in water properties affecting the health and the life of living creatures.
3. The remains or traces of organisms that lived in the past and were preserved in sedimentary rocks.
4. It is curved lines that join the points of equal pressure in atmospheric pressure maps.
5. The continuous decrease without compensation in the number of a certain species of living organisms until members of species dies out.

B 1. Write the balanced chemical equations representing the following reactions :

1. The reaction between magnesium and dilute hydrochloric acid.
2. The reaction between bromine and potassium iodide.

2. Locate the following elements in the modern periodic table :

1. ${}_{20}\text{Ca}$

2. ${}_1\text{H}$

C Write the important of each of the following :

1. Ozone layer.
2. Cobalt 60.
3. Hofmann's voltameter.
4. Moseley's periodic table.
5. Ionosphere.

Question 4

A Compare between :

1. Mold and Cast (according to definition and example).
2. Aneroid and Altimeter (according to its importance).

B Correct the underlined words :

1. Each period ends with a nonmetal.
2. When water freezes its density doesn't change.
3. The normal degree of ozone is 200 Dobson.
4. Panda bear is one of extinct species.
5. Thermosphere layer contains 75% of the mass of the atmospheric air.

- C** Mention the atomic number of each of the following elements :
1. The element, which is located in the second period and in group (7A).
 2. The element, which is located in the third period and in group (1A).
 3. The element, which is located in the first period and in group (18).

6

Giza Governorate

Egypt Dream Language School

Answer the following questions :

Question 1

- A** Complete the following sentences :

1. is a type of barometers used to determine the possible day weather, while is instrument used to measure the altitude of airplanes above the sea level.
2. The coldest layer of the atmospheric envelope is called, while all weather phenomena are present in the layer.
3. When temperature of water becomes less than 4°C its density, while its volume
4. is an endangered bird, while is an endangered mammal.

- B** Write the scientific term :

1. The addition of any substance to water, which causes continuous gradual change in water properties affecting the health and life of living organisms.
2. Trapping of infrared radiation in troposphere due to the increase in the percentage of greenhouse gases.
3. The death of all members of species of living organisms.
4. Thinning of ozone layer above the south pole.

- C** Problem :

Find the temperature at a point of height 10 km above the sea level, if the temperature at the sea level is 24°C .

Question 2

- A** Choose the correct answer :

1. The element whose atomic number equals 18 is considered element.
 - a. transition
 - b. inert gas
 - c. metallic

2. In the periodic table, the elements which are similar in their chemical properties are located in the same
 a. period. b. energy level. c. group.
3. Water has a/an effect on litmus paper.
 a. acidic b. neutral c. basic
4. In water electrolysis, if the volume of the evolved gas above the cathode is 8 cm^3 , so the volume of the evolved gas above the anode is cm^3 .
 a. 16 b. 8 c. 4

B You have 3 elements X, Y and Z of atomic numbers 2, 9 and 12 respectively, answer the following :

1. Determine their location in the modern periodic table.
2. Calculate the atomic number of the element, which follows element Z in the same group.

C Give an example of each of the following :

1. Greenhouse gases.
2. Simple ecosystems.

Question 3

A Give reasons for :

1. The temperature at the top of a mountain is less than that at its foot.
2. Stop producing concorde aeroplanes.
3. Oil doesn't dissolve in water.
4. Wadi El-Hetan is considered as the most important area in Wadi Al-Rayan protectorate.

B Correct the underlined words :

1. The angle between the two covalent bonds of water molecule is 180° .
2. The ozone layer extends from 20 to 30 km above the sea level.
3. Pilots prefer to fly their aeroplanes in the lower part of mesosphere.
4. Magnesium reacts with dilute HCl and Cl_2 gas evolves.

C What is meant by ... ?

1. The chemical activity series.
2. Food web.

Question 4

A Complete the following sentences :

1. The ultraviolet radiation has effect, while infrared radiation has effect.

2. Elements of s-block are located on the side of the periodic table, and they are arranged in two groups which are and
3. The valency of group 7A elements is
4. Bromine exists in a state, while iodine exists in a state.

B Choose out the odd symbol or word :

1. Na_2O / MgO / CO_2 / CaO
2. F_2 / Cl_2 / Br_2 / C
3. Cast / Mold / Fossil record / Petrified fossil.
4. Nitrogen oxides / Water Vapor / Freon / Halons.

C What happens when ... ?

1. Harmful cosmic radiations collide with ionosphere.
2. Burning a magnesium strip inside a test tube that contains oxygen.

7

Giza Governorate

6th October Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. Elements of group (7A) are called, and they have a valency equals
2. F-block consists of 2 series which are called and
3. Thickness of ozone layer is Dobson or mm.
4. is considered as a linkage between birds and reptiles.
5. The strongest metal is, and strongest nonmetal is
6. The hottest atmospheric layer is

B Give reasons for each of the following :

1. Troposphere organizes the temperature of the Earth.
2. Group (1A) are called alkali metal.
3. In each group of the modern periodic table, the elements are similar in their chemical properties.

C How can you locate the following elements in the modern periodic table ?

1. $_{11}\text{Na}$

2. $_2\text{He}$

Question 2

A Put (✓) or (✗) in front of the following statements :

1. The infrared rays has a chemical effect. ()
2. Water decomposes by electrolysis into oxygen and hydrogen. ()
3. Acidic oxides turn litmus paper into blue. ()
4. The first protectorate in Egypt is Blue Stone protectorate. ()
5. Fossil record indicates that life is started on land then in sea. ()
6. The s-block in the modern periodic table contains 2 groups. ()

B Write the use (importance) for each of the following :

1. Cobalt 60.
2. Altimeter.
3. Van-Allen Belts.

C If you know the volume of the gas that evolves at the anode during water electrolysis is 30 cm^3 , calculate the volume of the gas that evolves at the cathode and write the name of the two gases.

Question 3

A Write scientific term :

1. Elements that have properties of metals and nonmetals.
2. Ability of the atom to attract the electrons of the covalent bond towards itself.
3. Weak electrostatic attraction that arises between molecules of water.
4. Continuous increase in the Earth temperature.
5. Dying out of all member of certain species.
6. The scientist who discovered the main energy levels.

B Complete the following equations :

1. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots\dots\dots$
2. $2\text{H}_2\text{O} \xrightarrow{\text{electrolysis}} \dots\dots\dots + \dots\dots\dots$
3. $\text{Br}_2 + 2\text{KCl} \longrightarrow \dots\dots\dots$

C Cross out the odd one :

1. $\text{F}_2 / \text{Br}_2 / \text{Cl}_2 / \text{Na}$

2. s-block / p-block / d-block / m-block.

Question 4**A** Choose the correct answer :

- Metal oxides are called oxides.
a. acidic b. amphoteric c. basic d. salty
- Transition elements start to appear in period number
a. 2 b. 4 c. 3 d. 6
- The region between mesosphere and thermosphere is called
a. mesopause. b. stratopause. c. thermopause. d. troposphere.
- A type of ultraviolet rays that is absorbed completely (100%) in ozone layer is UV.
a. far b. near c. medium d. thermal
- All the following are endangered species, except
a. panda bear. b. quagga. c. bald eagle. d. ibis bird.
- is from noble gases.
a. Cesium b. Sodium c. Neon d. Potassium

B Give an example for each of the following :

- Extinct animal.
- Greenhouse gas.
- Cast fossil.

C Compare between : Biological pollution and Chemical pollution of water (regarding harms).**8 Giza Governorate**

Kerdasa Directorate

Answer the following questions :

Question 1**A** Choose the correct answer :

- Mendeleev arranged elements in an ascending order according to their , while Moseley arranged the elements in an ascending order according to their
a. atomic number – atomic weight. b. atomic weight – atomic number.
c. atomic weight – atomic weight. d. atomic number – atomic number.

2. The transition elements starting to appear from period, and they lie at the of the periodic table.
 - a. 3-upper b. 4-middle c. 4-upper d. 4-bottom
3. The atomic number of the element which lies in period (3) and group (7A) is
 - a. 15 b. 17 c. 10 d. 7
4. Each period in the modern periodic table starts with, and ends with
 - a. metal-nonmetal. b. metal-metalloid.
 - c. metal-metal. d. metal-Nobel gas.

B Arrange the following ascendingly :

1. ${}^{23}_{11}\text{Na}$, ${}^{39}_{19}\text{K}$, ${}^{27}_{13}\text{Al}$, ${}^{24}_{12}\text{Mg}$ (according to their atomic size)
2. ${}^9_9\text{F}$, ${}^{35}_{35}\text{Br}$, ${}^{53}_{53}\text{I}$, ${}^{17}_{17}\text{Cl}$ (according to their nonmetallic properties)
3. Fish, Mammoth, Trilobite, Archaeopteryx. (according to their appearance on the life)
4. Types of ultraviolet rays : (Far, Medium and Near) (according to their wave length)

C Problem :

Calculate the collected volume of the gas at the negative pole, if you know that the collected volume of the gas at the positive pole was 5 cm^3 .



Question 2

1 Complete the following sentences :

1. is an extinct bird, while is an endangered bird.
2. is radioactive isotope which is used in preservation of food because it emits ray.
3. The type of bonds between water molecules are, while the type of bonds between its atoms are
4. If the atomic number of an element is 15, this means that it lies in period number and group number

B Show by a chemical equations, How to obtain each of the following :

1. Sodium chloride from sodium metal.
2. Magnesium hydroxide from magnesium metal.

C Classify each of the following :

1. ${}_4\text{Be}$, ${}_1\text{H}$, ${}_5\text{B}$, ${}_8\text{O}$ (into : metals , nonmetals and metalloids).
2. Dinosaur's eggs fossil – Fern fossil – Ammonites fossil – Amber fossil.
(into : different types of fossils)

Question 3

A Complete the following table :

	Stratosphere	Troposphere
Thickness (1) (2)
Temperature (at its top) (3) (4)
Pressure (at its top) (5) (6)
Air movement (7) (8)

B Give reasons for each of the following :

1. Elements of the same group in the modern periodic table have the same chemical properties.
2. Sulphur dioxide is an acidic oxide.
3. Stopping manufacturing of concord aeroplanes.
4. Liquefied nitrogen is used in preservation of cornea of the eye.

C Mention the use (importance) of each of the following :

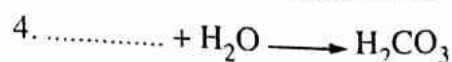
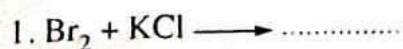
1. Altimeter.
2. Ionosphere.

Question 4

A Write the scientific term for the following statements :

1. The ability of the atom in a covalent molecule to attract the electrons of the bond.
2. Safe areas which established to protect the endangered species in their homeland.
3. The mammal that is considered the midway between horse and zebra.
4. The path of energy from a living organism to another in an ecosystem.

B Complete the following chemical equations :



C Problem :

Find the temperature at a point of height 3.5 kilometers above the sea level, if the temperature at the sea level is 23°C .

9 Alexandria Governorate

Taymour English School

Answer the following questions :

Question 1**A Write the scientific term :**

1. They are safe areas established to protect the endangered species in their homeland.
2. It is a phenomenon that appears as brightly light curtains seen at both poles of the Earth.
3. Block of elements that arranged into two horizontal series at the lower part of the modern periodic table.
4. It is the arrangement of metals in a descending order according to the degree of their chemical activity.
5. Curved lines that join the points of equal pressure in the atmospheric pressure maps.
6. The rays that are trapped in the troposphere causing greenhouse effect.

B Give one example for :

1. An element that has zero electronegativity.
2. An endangered organism.
3. A pollutant that causes both ozone layer erosion and global warming.
4. A semi-metal element that is used in electronic devices.
5. An amphoteric oxide.

C Problem :

Calculate the temperature at a height 7252 meters above the sea level. (Knowing that the temperature at the sea level equals 22°C).

Question 2**A Give reasons for :**

1. All bases are not considered alkalis.
2. Pilots prefer to fly their aeroplanes in the lower part of stratosphere layer.
3. Desert is considered as a simple ecosystem.
4. Bald eagle is called by this name.

B An element which is located in period (3) and group (5A).

Find its atomic number and the name of its block in the modern periodic table.

C Correct the underlined words :

1. Quagga is a link between reptiles and birds.
2. Covalent bonds between water molecules is a strong bond.
3. Mesosphere is the ozonic layer as it contains a limited amounts of ozone.
4. Mendeleev discovered the positive protons.

Question 3

A Mention one use for :

1. Aneroid barometer.
2. Liquified Nitrogen.
3. Van-Allen Belts.

B What is the effect of the following on health ?

1. Throwing human wastes in water.
2. Throwing mercury in water.
3. Filling plastic bottles with tap water.

C Show the effect of diluted hydrochloric acid on both magnesium and sulphur. (with the balanced chemical equation).

D Choose the correct answer :

1. The transition elements are found in
 a. s-block. b. d-block. c. f-block. d. p-block.
2. The correct order to arrange ${}_5\text{B}$, ${}_{20}\text{Ca}$, ${}_{12}\text{Mg}$ and ${}_{13}\text{Al}$, descendingly according to the atomic size is
 a. $\text{Ca} > \text{Al} > \text{B} > \text{Mg}$ b. $\text{Ca} > \text{Al} > \text{Mg} > \text{B}$
 c. $\text{Ca} > \text{Mg} > \text{Al} > \text{B}$ d. $\text{B} > \text{Al} > \text{Mg} > \text{Ca}$
3. The element that is found in group (1A) which and kept under paraffin oil and not kept under kerosene is
 a. sodium. b. cesium. c. lithium. d. bromine.
4. The temperature in troposphere reaches at its top.
 a. 0°C b. -90°C c. 1200°C d. -60°C
5. The element which emits rays and can be used in preservation of food is
 a. Cobalt 60 which emits alpha rays. b. Cobalt 60 which emits gamma rays.
 c. Cobalt 50 which emits alpha rays. d. Cobalt 70 which emits gamma rays.
6. The strongest nonmetal in the modern periodic table, is
 a. sodium. b. cesium. c. fluorine. d. astatine.
7. The normal atmospheric pressure is at the sea level.
 a. 100 mbar b. 101325 mbar c. 1013.25 bar d. 1013.25 mbar

Question 4**A Complete the following sentences :**

- is a solidified resinous material which was secreted by pine trees in the old ages.
- $\text{Cl}_2 + 2 \text{KBr} \longrightarrow \dots + \dots$
- Hydrogen gas is collected above during water electrolysis.
- Petrified woods considered as fossils in which the organic material of trees is replaced with
- is an example of complete body fossil which were buried under
- and foraminifera are microfossils, their presence indicates the formation of

B Write a property for :

- Potassium.
- Tropical forest.

C Answer the following questions :

- Show by equations how ozone is formed.
- Write an achievement for Bohr.
- Mention one difference between helium and fluorine.

10 Alexandria Governorate

El-Agamy Directorate

Answer the following questions :

Question 1**A Choose the correct answer :**

- All the following are greenhouse gases, except
 a. nitrous oxide. b. water vapour. c. carbon dioxide. d. methyl bromide.
- The measuring unit of atomic radius is
 a. picometer. b. Dobson. c. gm. d. cm^3
- From the old extinct animals,
 a. panda bear. b. bald eagle. c. mammoth. d. quagga.
- From the examples of amphoteric oxide
 a. CO_2 b. Al_2O_3 c. MgO d. N_2O

5. The inert gas that exists in period three has atomic number equals
 a. 3 b. 18 c. 10 d. 7
6. The scientist who was discovered the main energy levels,
 a. Bohr. b. Mosley. c. Mendelev. d. Rutherford.

B Give reasons for :

1. Silicon slides are used in the manufacture of electronic devices.
2. El-Mokattam mountain was a sea floor since 35 million years.
3. The lower part of stratosphere is suitable for flying the aeroplane.
4. The water is polar compound.

Question 2

A Write the scientific term of the following :

1. Thinning or losing parts of the ozone layer at the south pole.
2. Dying out all members of one species of living organisms.
3. The ability of an atom in a covalent molecule to attract the electrons of bond toward itself.
4. Safe area that are established to protect endangered species in their homeland.
5. The arrangement of metals in descending order according to their chemical activity.
6. A water pollutant that causes the death of brain cells.

B Give one difference between the following :

1. Acidic oxides and basic oxides.
2. Thermosphere and mesosphere.
3. Simple ecosystems and complicated ecosystems.

C What's meant by ... ?

1. Metalloids.
2. Fossils.

Question 3

A Complete the following sentences :

1. The transition elements start to appear from period number, and consists of groups.
2. Ultraviolet radiations has effect, and inferared rays has effect.
3. Archaeopteryx fossil is a link between and
4. The new number of group (6A) is, and the new number of group zero is
5. Mesopause is the area between layer and layer.

B Locate the following elements in the modern periodic table :

1. $_{10}\text{Ne}$

2. $_6\text{C}$

3. $_{14}\text{Si}$

4. $_3\text{Li}$

5. $_{20}\text{Ca}$

C Write the balanced chemical equations of the following :

1. Burning a piece of coal.
2. Magnesium with diluted hydrochloric acid.
3. Sodium with water.
4. Chlorine with potassium bromide.

Question 4

A Put (✓) or (✗) in front of the following statements, then correct the wrong ones :

1. Yellowstone protectorate established to protect panda bear from extinction. ()
2. Index fossils are used to determine the age of sedimentary rocks. ()
3. Ionosphere layer lie at height 20 km from the sea level. ()
4. The liquid halogen is chlorine. ()
5. The atmospheric pressure decreases by increasing the altitude from the sea level. ()
6. Traces indicate the activity of living organisms during their life. ()

B What happens when ... ?

1. Solidification of resinous matter that secreted from pine tree in old geological age on an insect.
2. Van-Allen Belts scattering the harmful cosmic radiations.
3. Absence of one member species from a simple ecosystem.

C Problem :

If the temperature at the sea level 26°C , find the temperature at the top of a mountain with a height equals 4000 m.

11 Alexandria Governorate

El-Montazah Directorate

Answer the following questions :

Question 1

A Complete the following :

1. From the basic oxides, while is an example of acidic oxide.
2. Most weather phenomena occur in the layer, while meteors are formed in layer.

- Chlorine can replace and in a solution of their salts.
- In group (1A) the lowest active metal is, while the most active element is

B Mention the following :

- A solid halogen.
- An endangered plant.
- A kind of ultraviolet rays absorbed completely by the ozone layer.

C Problem :

If the temperature at the foot of a mountain equals 13°C . Find the temperature at its top if its height equals 2 km.

Question 2

A Choose the correct answer :

- indicates the extinction.
a. Fossils b. Protectorate c. Evolution d. Rocks
- Increasing the ratio of element in drinking water causes blindness.
a. lead b. mercury c. arsenic d. boron
- The scientist discovered that the nucleus of an atom contains positive protons.
a. Rutherford b. Moseley c. Mendeleev d. Bohr
- All the following elements are located in the same group, except
a. $_{19}\text{K}$ b. $_{11}\text{Na}$ c. $_{12}\text{Mg}$ d. $_{3}\text{Li}$
- A halogen locates in the second period, so its atomic number equals
a. 7 b. 9 c. 17 d. 19
- All the following gases are greenhouse gases, except
a. H_2O b. CO_2 c. N_2O d. SO_2

B Show by balanced chemical equation each of the following :

- Reaction of bromine with potassium iodide.
- Reaction between magnesium and dilute hydrochloric acid.

C Mention one importance of :

- Liquefied nitrogen.
- Methyl bromide gas.

Question 3

A Correct the underlined words :

1. Each period in the modern periodic table, ends with a nonmetal.
2. The commercial name of CaF_2 is calcium fluoride.
3. The complete body fossil of mammoth is preserved in amber.
4. The temperature decreases to 90°C at the end of the troposphere layer.
5. The measuring unit of the atomic size is cm.
6. The transition elements start to appear at period number 3.

B Locate the following elements in the modern periodic table :

1. ${}_9\text{F}$

2. ${}_{13}\text{Al}$

C Mention one difference between :

1. Simple ecosystem and complicated ecosystem.
2. Altimeter and aneroid.

Question 4

A Write the scientific term :

1. The ability of an atom of a covalent molecule to attract the electrons of the chemical bond toward itself.
2. The continuous decrease in the number of a certain species until they all die out.
3. The layer that contains charged ions, that is used in wireless communication.
4. They are bonds exist between water molecules.
5. The weight of air column of an atmospheric height on a unit area.

B Give reasons for :

1. Water have a high boiling point.
2. Piolets prefer to fly their planes at the lower part of the stratosphere layer.
3. Mendeleev considered that isotopes are different elements.

C Cross out odd word, then write the scientific term of the other :

1. Bald eagle / Rhinoceros / Ibis bird / Quagga.
2. ${}_{12}\text{Mg}$ / ${}_{13}\text{Al}$ / ${}_{11}\text{Na}$ / ${}_3\text{Li}$
3. Neon / Nitrogen / Helium / Argon.

12 Alexandria Governorate

East Alexandria Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. The number of elements in Mendeleev's periodic table is elements.
2. The scientist discovered the main energy levels of the atom.
3. Fossils are often found in rocks.
4. The normal atmospheric pressure equals mbar at the sea level.

B Write the scientific term of each of the following sentences :

1. The block that contains the groups from (3A) to (0).
2. The polar compound that consists of one oxygen atom and two hydrogen atoms.
3. The number of positive protons inside the nucleus of the atom of an element.
4. The halogen which exists in a liquid state.

C From the opposite figure :

1. What is the name of this group ?
2. What is the valency of its elements ?

X
II Y
Z
L
M

Question 2

A Choose the correct answer :

1. Complete body fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. air.
2. All of the following gases are greenhouse gases, except
a. O_2 b. CO_2 c. N_2O d. CH_4
3. There are bonds among water molecules.
a. hydrogen b. covalent c. ionic d. metallic
4. is not considered from halogens.
a. Sodium b. Chlorine c. Fluorine d. Iodine

B Put (✓) or (✗) in front of the following statements :

1. Papyrus is considered as an extinct plant. ()
2. Cobalt 60 emits gamma rays. ()
3. The complete body fossil of mammoth found preserved in snow. ()
4. Both oil and sugar are covalent compounds. ()

C Compare between :

Mesosphere and thermosphere "concerning : importance – temperature at its top".

Question 3

A Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Sodium	a. is used in extinguishing fires.
2. Carbon	b. is a metal.
3. Halon	c. is used in making foam backing.
4. Freon	d. is a nonmetal.
1.	2.
3.	4.

B Correct the underlined words :

- The thickness of ozone layer in the stratosphere layer is (60) km.
- The element which is located in period (3) and group (3A) is sB.
- Mesopause is located between stratosphere and mesosphere layers.
- Tap water doesn't affect litmus paper.

C Give a reason for the following :

Liquefied nitrogen is used in the preservation of cornea of the eye.

Question 4

A Cross out the odd word :

- Dinosaur / Panda bear / Dodo Bird / Quagga.
- Mosses / Reptiles / Invertebrates / Fish.
- Helium / Neon / Hydrogen / Argon.
- Silicon / Bromine / Boron / Arsenic.

B Give an example for each of the following :

- Traces of an old living organism.
- Negative effects of global warming phenomenon.
- One of the natural water pollutants.
- A basic oxide.

C Express with a balanced chemical equation :

The reaction between magnesium and diluted hydrochloric acid.

Answer the following questions :

Question 1

A Complete the following sentences :

1. In the modern periodic table, elements which are similar in their chemical properties are located in the same
2. In the modern periodic table, d-block contains elements.
3. An example of polar compounds is, that has a neutral effect on litmus solution.
4. The strongest nonmetal element locates in group in the modern periodic table.

B Give an example for each of the following :

1. An endangered plant.
2. A pollutant of ozone layer.
3. An extinct non-flying bird.
4. An element that doesn't react with water.

C Locate the following elements in the modern periodic table :

1. $_{11}\text{Na}$

2. $_{20}\text{Ca}$

Question 2

A Write the scientific term for each of the following :

1. They are safe areas established to protect endangered species in their homeland.
2. The descending arrangement of metals according to their chemical activity.
3. The region between troposphere and stratosphere.
4. The block that contains the series of lanthanides and actinides.

B Mention the measuring unit for each of the following :

1. The atomic size of the element.
2. The degree of ozone.
3. The atmospheric pressure.

C Problem :

If the temperature at the sea level is 30°C . Find the temperature at a height of 6 km.

Question 3

A Choose the correct answer :

- All of the following are greenhouse gases, except
a. CO_2 b. O_2 c. N_2O d. CH_4
- P-block contains groups.
a. 10 b. 2 c. 6 d. 8
- The replaces the wood material, part by part of an old tree.
a. copper b. iron c. sodium d. minerals
- During electrolysis of water the volume of evolved oxygen gas is the volume of evolved hydrogen gas.
a. equal to b. half c. twice d. quarter

B Complete the following equations :

- $\text{Cl}_2 + 2 \text{KBr} \longrightarrow \dots + \dots$
- $\text{MgO} + \text{H}_2\text{O} \longrightarrow \dots$
- $\text{CO}_2 + \dots \longrightarrow \text{H}_2\text{CO}_3$

C Mention one difference between :

Simple ecosystem and complicated ecosystem.

Question 4

A Correct the underlined words :

- When water freezes, its density increases.
- The modern periodic table contains 100 elements.
- Methyl bromide gas used in extinguishing fires.
- The complete body fossil of mammoth is found preserved in amber.

B Put (✓) or (✗) in front of the following statements, then correct the wrong ones :

- Infrared radiation has a chemical effect. ()
- Altimeter is used for determining the possible day weather. ()
- Foraminifera are from microfossils. ()
- Meteors are formed in stratosphere layer. ()

C Give a reason for each of the following :

- Pilots prefer to fly their planes in the lower part of stratosphere.
- Mendeleev left gaps in his periodic table.

14 Menofia Governorate

Shebien El-Koum Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. Sodium is kept under the surface of to prevent its reaction with
2. Mesosphere layer is highly rarefied, because it contains a limited quantities of and gases only.
3. + \longrightarrow H_2CO_3
4. Fossils are used in exploration and determining the age of

B Study the opposite figure which represents a part of the modern periodic table, then answer the following questions by using it :

${}_1\text{H}$					
${}_3\text{Li}$	${}_4\text{Be}$	${}_5\text{B}$	${}_6\text{C}$	${}_7\text{N}$	${}_8\text{O}$
${}_{11}\text{Na}$					
${}_{19}\text{K}$					

1. The element that has the highest electronegativity is
2. The element that has the greatest atomic size is
3. This part represents the group number and the period number
4. The element which has the lowest metallic property in this group is

C Write the balanced chemical equation, that illustrate the reaction between chlorine and potassium bromide.

Question 2

A Choose the correct answer :

1. The average age of the lower layers of sedimentary rocks is that of its upper layers.
 - a. more than
 - b. less than
 - c. equal
2. contains charged particles and it has an importance in wireless communications.
 - a. Mesosphere
 - b. Stratosphere
 - c. Ionosphere
3. The kind of rays which are emitted from cobalt 60 is
 - a. ultraviolet rays.
 - b. infrared radiation.
 - c. gamma rays.
4. (X) is an alkali metal that reacts with oxygen to form a chemical compound known as
 - a. X_2O_2
 - b. X_2O
 - c. XO_2

B Cross out the odd word or symbol:

1. Al^{+3} / Na^{+1} / Mg^{+2} / O^{-2}
2. Dodo bird / Panda bear / Bald eagle / Papyrus plant.
3. Oxygen gas / Organic fertilizers / Animals wastes / Mercury.
4. Saint cathrine / Ras mohamed / Wadi El-Hetan / Petrified forest.

C Problem :

Calculate the height of a mountain if temperature at its foot is 30°C and at its top is -9°C .

Question 3**A Write the scientific term for each of the following :**

1. It is the weight of air column of atmospheric height on a unit area (1m^2).
2. Replacing part by part of the wood material of an old tree by minerals to form petrified wood.
3. Elements which have the properties of both metals and nonmetals.
4. A water pollutant, which causes the death of brain cells.

B Choose the correct word from inbetween brackets :

(bromine – lose electron(s) – increases – HCl – decreases – iodine – gain electron(s) – CO_2)

1. The halogen which exists in a solid state is
2. The density of air as we go up.
3. During a chemical reaction, a metal atom tend to
4. The most important greenhouse gas is

C What is the difference between ... ?

Simple ecosystems and complicated ecosystems.

Question 4**A Correct the underlined words :**

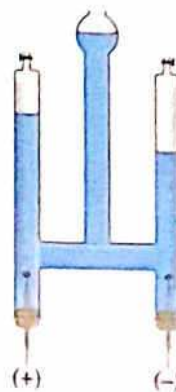
1. Some salts dissolve in water forming alkalis.
2. Halons are produced among the burning of fuel of supersonic aeroplanes.
3. Amber protects the mammoth inside it from decomposition.
4. The cast is a replica of the interior details of an ancient living creature.

What is the symbol indicates each of the following ?

1. The element that has the most metallic property, is
2. The element that locates in period (3) and group (6A), is
3. The element that has atomic number equals 12, is
4. The element that gains one electron during chemical reaction, is

C The opposite figure illustrates the apparatus that is used in the electrolysis of water :

1. Write the balanced chemical equation of this process.
2. Calculate the volume of the gas at the positive pole, if the volume of the gas at the negative pole is 5 cm^3 .



Question 2

A Write the scientific term for each of the following :

1. The block that contains the series of lanthanides and actinides.
2. A type of ultraviolet radiation that is absorbed completely by the ozone layer.
3. Electrostatic attraction that originates between the molecules of some polar compounds.
4. Fossils indicate that the environment where they found was clear warm shallow seas.

B Correct the underlined words :

1. Calcium and magnesium react with hot water vapour only.
2. Some covalent compounds such as oil, can form hydrogen bonds with water molecules.
3. Part of Wadi El-Raiyan protectorate contains coloured fishes and coral reefs.
4. An ammonite fossil represents a mold of an insect.

C Show by chemical equations the role of ultraviolet radiation in the formation of ozone gas.

Question 3

A Answer according to that in bracts :

1. ${}^6\text{C} / {}^{11}\text{Na} / {}^8\text{O} / {}^{19}\text{K} / {}^9\text{F}$ (arrange in ascending order according to their atomic radius).
2. (Who) discovered that the nucleus of an atom contains positively charged protons.
3. There are two dangerous phenomena that facing the Earth, which are erosion of ozone layer in mesosphere and global warming in stratosphere (correct the sentence).
4. An extinct bird with small wings, and it was an easy target for hunters (name the organism).

B Put (✓) or (✗) in front of the following statements :

1. The nonmetallic property increase gradually as we go from top to bottom in the same period, in the modern periodic table. ()
2. An element has atomic number equals 7, so the atomic number of the element that follow it in the same group equals 18. ()
3. CFCs compounds are from the reasons of ozone hole and global warming. ()
4. The atmospheric pressure increases on going under the sea level, due to decreasing the length of air column. ()

C Show by symbolic balanced chemical equation :

1. The reaction of magnesium with diluted hydrochloric acid.
2. The reaction of sodium metal with chlorine gas.

Question 4**A Cross out the odd word. Then write the scientific term of the rest :**

1. Overhunting / Environmental pollution / Meteorite impact the Earth / Destroying natural habitat.
2. Panda bear / Ibis bird / Bald eagle / Quagga.
3. Pilot prefers to fly in it / It is surrounded by Van-Allen Belts / The temperature at its top equals 0°C / Its thickness equals 37 km.
4. ${}^2\text{He}$ / ${}^{10}\text{Ne}$ / ${}^{16}\text{S}$ / ${}^{18}\text{Ar}$

B Choose the correct answer :

1. The chemical properties of ${}_{20}\text{Ca}$ are similar to those of
 a. ${}_{19}\text{K}$ b. ${}_{12}\text{Mg}$ c. ${}_{15}\text{P}$ d. ${}_{3}\text{Li}$
2. in its salt solution.
 a. Iodine replaces chlorine b. Iodine replaces bromine
 c. Chlorine replaces bromine d. Bromine replaces chlorine
3. A liquid boils at 100°C what is the other property, which confirms that it is a pure water ?
 a. Salt dissolves in it. b. Its density decreases on freezing.
 c. It evaporates on heating.
 d. It has a neutral effect on both litmus papers.
4. Luminous meteors are formed in layer.
 a. the coldest b. the disturbed c. the hottest d. the ozone

- C** A metallic element (M) which is located in period (3) and when it reacts with oxygen a compound its formula (M_2O_3) is formed, what is its atomic number and what is its block in the modern periodic table.

16 Gharbia Governorate

Science Inspectorate

Answer the following questions :

Question 1

- A** Complete the following sentences :

1. Fluorine and chlorine exist in a state, while iodine exists in a state.
2. If the volume of the evolved gas at the anode in Hofmann's voltameter is 7 cm^3 , therefore the volume of the evolved gas at the cathode is cm^3 .
3. The thickness of the mesosphere layer is km.
4. protectorate is the first established natural protectorate in Egypt.

- B** Correct the underlined words :

1. Freon is used as an insecticide to preserve stored agricultural crops.
2. Temperature decreases by (6.5°C) at 2 km above the sea level.
3. An element that is located in period (3) and group (2A), has atomic number equals (13).
4. Each period starts with a strong nonmetal, except the first period.

- C** Write the balanced chemical equations which express the following reactions :

1. Magnesium with dilute hydrochloric acid.
2. Electrolysis of water.

Question 2

- A** Write the scientific term of the following :

1. Curved lines that join the points of equal pressure in atmospheric pressure maps.
2. Trace that indicates the remains of an old living organism after its death.
3. They are elements that have the properties of both metals and nonmetals.
4. It is a table in which the elements are arranged in an ascending order according to their atomic weights.

- B** Cross out the odd word, then write the scientific term of the others :

1. CO_2 / MgO / Na_2O / CaO .
2. Lithium / Sodium / Potassium / Helium.
3. Cast / Fossil of a complete body / Fossil record / Mold.
4. Rhinoceros / Panda pear / Dodo bird / Bald eagle.

④ Put (✓) or (✗), then correct the false one(s):

1. Archaeopteryx represents a link between reptiles and mammals. ()
2. Water and ammonia are from polar compounds. ()
3. Aurora phenomenon appears as colored brightly light curtains seen at both north and south poles of the Earth. ()
4. Both nitrogen (${}^7\text{N}$) and carbon (${}^6\text{C}$) are located in the same group in the modern periodic table. ()

1. Locate the following elements in the modern periodic table :

1. ${}_{10}\text{Ne}$ 2. ${}_{19}\text{K}$
2. Calculate the height of a mountain, if the temperature at its foot is (30°C) and at its top is (-6°C).

Old extinction - recent extinction (concerning : their causes)

A Choose the correct answer :

1. The complete body fossil of a mammoth is found preserved in
a. amber. b. snow. c. ocean. d. sedimentary rocks.
2. The strongest nonmetal locates in group
a. 7A b. 1B c. 1A d. 2A
3. All the following diseases are caused by biological water pollution, except disease.
a. liver cancer b. bilharzia c. hepatitis d. typhoid
4. The path of energy that transfers from a living organism to another is known as
a. food web. b. food pyramid. c. food chain. d. food type.

1. A halogens that presents in a liquid state.
2. An endangered plant.
3. A radiation that has a thermal effect.
4. A metal that doesn't react with water.

C Give reasons for :

1. The tropical forest is a complicated ecosystem.
2. Not all known fossils are considered index fossils.

17 Damietta Governorate

Damietta Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. The scientist Mosely arranged the elements ascendingly according to their
2. The strongest nonmetal element locates in group in the modern periodic table.
3. Satellites rotate in
4. Fossils are found in rocks.

B Correct the underlined words :

1. The element which has an atomic number equals (18) is a metallic element.
2. There are covalent bonds between water molecules.
3. MgO is an acidic oxide.
4. Each period starts with a weak metal.

C If half the volume of the gas evolved above the anode of Hofmann's voltameter is 5 cm. calculate the volume of the gas evolved above the cathode. And how can you detect it practically ?

Question 2

A Write the scientific term for the following :

1. The ability of an atom in the covalent compound to attract the electrons of the chemical bond towards itself.
2. A type of water pollution from dumping of the atomic (nuclear) wastes in seas and oceans.
3. It is a path of energy that transmits from a living organism to another in the ecosystem.
4. A type of ultraviolet radiation that does not penetrate the ozone layer with a percentage 100 %.

B Mention one example for each of the following :

- | | |
|-------------------------------|----------------------|
| 1. A covalent polar compound. | 2. A liquid halogen. |
| 3. An endangered plant. | 4. An extinct bird. |

C Calculate the temperature at a point of height 2 km. above the sea level, if the temperature at the sea level is 24°C.

Question 3**A** Choose the correct answer :

- The chemical properties of calcium ($_{20}\text{Ca}$) are similar to those of
a. $_{19}\text{K}$ b. $_{3}\text{Li}$ c. $_{12}\text{Mg}$ d. $_{25}\text{Mn}$
- The ozone layer is found in
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
- Which of the following elements react with diluted hydrochloric acid ?
a. C b. Cl c. S d. Zn
- Complete body fossils of insect are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. water.

B Put (✓) or (✗) in front of the following sentences :

- The atomic size increases in the same group in the modern periodic table by increasing the atomic number. ()
- Global warming is a dangerous phenomenon that faces Earth's atmosphere. ()
- Sodium is used in manufacturing of electronics. ()
- Infrared radiation has a chemical effect. ()

C Give a reason for :

Although sugar is a covalent compound, it dissolves in water.

Question 4**A** Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Archaeopteryx	a. is considered the mid way between horse and zebra.
2. Dobson	b. is an atom of a nonmetallic element which gain electrons.
3. Quagga	c. is a link between reptiles and birds.
4. Negative ion	d. is an atom of metallic element which lose electrons.
	e. is the unit of measuring the degree of ozone.

1.

2.

3.

4.

B Correct the underlined words :

- Meteors burnt in thermosphere layer.
- Both of K and Mg don't react with water.
- Dinosaur's eggs and tooth are examples of cast fossils.
- The element ($_{12}\text{X}$) is located in period (2) and group (3A) in the modern periodic table.

C What happens when ... ?

Putting a piece of sodium in water.

18 Kafr El-Sheikh Governorate

Desouk Directorate

Answer the following questions :

Question 1**A Choose the correct answer :**

- is the scientist who discovered the main energy levels in the atom.
a. Moseley b. Bohr c. Hoffman d. Mendeleev
- is/are used in extinguishing fires.
a. Methyl bromide b. Halons c. Nitrogen oxides d. UV radiations
- Fossils are found in rocks.
a. sedimentary b. igneous c. metamorphic d. magnetic

B Give an example for :

- Microfossil.
- Extinct animal.
- Metalloid.

C What happens if ... ?

- Melting the snow of south and north poles of the Earth.
- Eating fish containing high concentration of lead.

Question 2**A Put (✓) or (✗) in front of the following statements :**

- The atomic size increases in the same group in the modern periodic table by increasing the atomic number. ()
- Mixing human and animals wastes with water causes chemical pollution for water. ()
- Ferns fossils indicate that the environment was a hot and rainy area. ()

B Write the scientific term :

- Safe places established to protect endangered species.
- The region between troposphere and stratosphere.
- The ascending order of the elements according to their atomic weights.

C Give reasons for :

- Although sugar is a covalent compound, it dissolves in water.
- The lower part of the stratosphere is suitable for flying airplanes.

Question 3**A** Complete the following :

1. is a liquid halogen, and is a solid halogen.
2. In group (1A) is the least active element, while is most active one.
3. The most weather phenomena occur in layer, but meteors are formed in layer.

B Cross out the odd word :

1. Dodo bird / Quagga / Mammoth / Bald eagle.
2. Neon / Nitrogen / Argon / Helium.
3. Oxygen / Nitrous oxides / Water vapour / Carbon dioxide.

C Calculate the height of a mountain, if the temperature at its foot is (30°C) and at its top is (-9°C).**Question 4****A** Complete these chemical equations :

1. $\text{Mg} + 2\text{HCl} \xrightarrow{\text{dil.}}$ +
2. + $\longrightarrow \text{H}_2\text{CO}_3$.
3. $2\text{Na} + 2\text{H}_2\text{O} \longrightarrow$ +

B For the element ($^{23}_{11}\text{X}$) find :

1. Its period number.
2. Its group number.
3. The block which it belongs to.

C Mention one difference between :

1. Altimeter and aneroid. (according to their uses)
2. Simple ecosystem and complicate ecosystem.

19 Behira Governorate

Science Inspectorate

Answer the following questions :

Question 1**A** Complete the following sentences :

1. metal reacts with hot water vapour, while metal doesn't react with water.
2. Water molecules are linked together by bond, due to the higher of oxygen with respect to hydrogen.

3. is the second atmospheric layer, and it is also called the
4. and are examples of remains of an old living organism after death.

B Correct the underlined word :

1. Chemical pollution of water causes many diseases such as typhoid and hepatitis.
2. Halogens locate in s-block in the modern periodic table.
3. Magnesium reacts with dilute HCl and Cl₂ gas evolves.
4. The number of energy levels occupied by electrons in the atom of an element indicates its group number.

C How can you differentiate chemically between magnesium oxide and carbon dioxide ?
(write the balanced chemical equation)

Question 2

A Write the scientific terms for each of the following :

1. Elements of zero group in the modern periodic table.
2. The measuring unit of atomic radius which is used as a measure for the atomic size.
3. A kind of radiations that can be break down oxygen molecule, forming free oxygen atoms.
4. Safe places that are specified to protect the endangered species in their original habitat.

B Mention one example for :

- | | |
|----------------------|----------------------|
| 1. Alkali metal. | 2. Endangered plant. |
| 3. A fossil of cast. | 4. Halogen. |

C Calculate the height of a mountain, if the temperature at its foot is 30°C and at its top is (-9°C).

Question 3

A Choose the correct answer :

1. in its salt solution.

a. Chlorine replaces bromine	b. Bromine replaces fluorine
c. Iodine replaces chlorine	d. Iodine replaces fluorine
2. Increasing the concentration of in drinking water causes blindness.

a. lead	b. arsenic	c. mercury	d. chlorine
---------	------------	------------	-------------

3. compounds are known commercially as feron.
 a. Halons b. Nitrogen oxides c. Halogens d. Chlorofluorocarbons
4. Complete body fossils of insects found preserved in
 a. ammonite. b. amber. c. igneous rocks. d. carbon dioxide.

B Choose from column (B) what is suitable in column (A) in the following tables :

(A)	(B)
1. Altimeter	a. used in the food preservation.
2. Aneroid	b. used to determine today's weather.
3. Liquefied nitrogen	c. used to measure altitude of planes.
4. Cobalt 60	d. used to determine the age of rocks.
	e. used in the preservation of the cornea of the eye

1. 2. 3. 4.

C Give reasons for :

1. Elements of the same group in the modern periodic table have the same chemical properties.
2. Alkali metals are kept under kerosene in the lab.

Question 4

A Cross out the odd word, then write the scientific term of the other :

1. Silver / Sodium / Iron / Calcium.
2. Methyl bromide / Carbon dioxide / Water vapour / Methane gas.
3. Trilobite fossil / Nummulites fossil / Fossil of ferns / Ammonites fossil.
4. Quagga / Dodo bird / Mammoth / Bald eagle.

B Write the number that indicates each of following :

1. The normal atmospheric pressure at the sea level.
2. The number of groups in p-block.
3. The boiling point of liquefied nitrogen.
4. The age of whale's fossils in Wadi El-Raiyan.

C If the volume of gas produced from the electrolysis of water at cathode equals 8 cm^3 , Calculate the volume of gas produced at anode and write its name.

Answer the following questions :

Question 1

A Complete the following sentences :

1. The coldest layer in the atmosphere is called , while the hottest layer is called
2. Biological water pollution causes the infection by many diseases such as , hepatitis and
3. From the old extinct animals is , while from the recent extinct animals is
4. Fluorine exists in state, while iodine exists in state.

B The following table illustrates the location of some elements in the modern periodic table, fill in the empty spaces :

	Atomic number	Period number	Group number
Cl	17 (1)	7A
Ne (2)	2	Zero
Mg	12 (3) (4)

C Give reasons for the following :

1. In groups of modern periodic table, the atomic size increases by increasing the atomic number.
2. Water is a polar compound.

Question 2

A Choose the correct answer :

1. Fossils are often found in rocks.
a. metamorphic b. sedimentary c. igneous d. liquid
2. High boiling point of water is due to the presence of bonds between its molecules.
a. single covalent b. double covalent c. hydrogen d. ionic
3. The normal atmospheric pressure equals mbar at the sea level.
a. 76 b. 1013.25 c. 1.013 d. 13
4. Alkali metals are considered from block elements.
a. s b. p c. d d. f

5. Ras Mohamed protectorate includes
 a. rare fish. b. whales' fossils.
 c. rare coral reefs. d. rare fish and coral reefs.
6. When sodium reacts with water, gas evolves.
 a. nitrogen b. oxygen c. hydrogen d. carbon dioxide
7. Ozone protects the Earth from harmful effect of rays.
 a. ultraviolet b. infrared
 c. thermal d. infrared and ultraviolet
8. All these alkali metals float on water surface, except
 a. K b. Na c. Li d. Cs

B Write the scientific term :

1. Fossils that lived for a short period of time and had a wide geographical range.
2. The group in the modern periodic table that its elements react with metals forming salts.
3. The process of replacing the wood material of trees part by part by minerals to form petrified fossils.
4. The radioactive element which is used in food preservation.

C Find the temperature on the top of a mountain, if the temperature at its foot equals 40°C and its height equals 2 km.

Question 3

A Put (✓) or (✗) in front of the following statements :

1. Fern fossils indicate that the environment where they lived was a sea floor. ()
2. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \text{H}_2\text{CO}_3$ ()
3. Meteors are formed in mesosphere layer due to friction with air molecules. ()
4. Mendeleev arranged elements in an ascending order according to their atomic numbers. ()
5. The transition elements start to appear at the fourth period of the modern periodic table. ()
6. Ozone layer is found in troposphere layer. ()
7. Mosley classified the elements of each main group into 2 subgroups A & B. ()
8. Papyrus is considered as an endangered plant. ()

B Cross out the odd word, then write the scientific term for the others :

1. Silicon / Boron / Arsenic / Iodine.
2. Halons / Water vapour / methane gas / CO_2

C Mention the role of the following scientists :

1. Rutherford.
2. Bohr.

Question 4

A Mention an example for each of the following :

1. Microfossils
2. A layer suitable for flying a plane.
3. A simple ecosystem.
4. A metalloid used in making electronic devices.

B Match from column (B) what suits it in column (A) :

(A)	(B)
1. Sulphur	a. is used to measure atmospheric pressure.
2. Polluted water with mercury	b. reacts with oxygen producing acidic oxide
3. Mammoth	c. causes blindness.
4. Barometer	d. causes death of brain cells.
	e. is a complete body fossil.

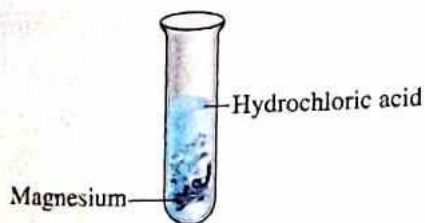
1.

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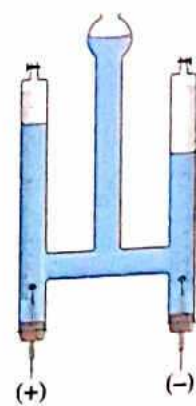
3.

4.

C Study the following figures, then answer the questions :



1. Write the balanced symbolic equation of the reaction.



2. This device is used for, and the volume of the evolved gas above the negative pole equals cm^3 if the volume of other gas equals 10 cm^3 .

21 Port Said Governorate

Port Said Directorate

Answer the following questions :

Question 1**A** Replace each of the following statement by a scientific term :

1. The ability of the atom in the covalent molecule to attract the electrons of the chemical bond towards itself.
2. The descending arrangement of metals according to their chemical activity.
3. Brightly coloured light curtains which appear at both north and south poles of the Earth.
4. Traces and remains of the old living organisms that are preserved in sedimentary rocks.

B Join the two pairs :

(A)	(B)
1. Liquefied nitrogen	a. is used in manufacturing of computers.
2. Silicon slide	b. is used in food preservation.
3. Radioactive cobalt 60	c. is used as an insecticide.
4. Liquid sodium	d. is used in the cornea preservation.
	e. is used in transferring heat from the inside of the nuclear reactor to its outside.

1.

2.

3.

4.

C What happens when ... ?

Putting a piece of sodium in water. (Answer only by using a balanced chemical equation)

Question 2**A** Complete the following sentences :

1. Eating fish which contains high ratio of causes the death of the brain cells, while drinking water which contains high ratio of causes infection by liver cancer.
2. Transition elements start to appear at the period and they include groups.
3. All atmospheric phenomena occur in the layer of the atmosphere, while is the layer where satellites float around the Earth.
4. Fossils can be used in exploration and to determine the age of

B Put (✓) or (✗) opposite to each of the following statements :

1. The atomic size of the elements of the same group in the modern periodic table, increases by the increase of elements atomic numbers.

()

2. The modern periodic table consists of 9 horizontal periods and 13 vertical groups. ()
3. Archaeopteryx fossil links between reptiles and mammals. ()
4. Quagga is a recent extinct animal. ()

C Mention the importance or the use of :

1. Altimeter.
2. Halons.

Question 3

A Choose the correct answer :

1. is considered as one of the halogens .
 a. Sodium b. Calcium c. Helium d. Chlorine
2. There are bonds between water molecules.
 a. covalent b. ionic c. hydrogen d. ionic and covalent
3. Meteors are formed in the layer of the atmosphere.
 a. ionosphere b. tropopause c. mesosphere d. stratopause
4. One of the examples of a complete body fossil is the
 a. dinosaur tooth. b. mammoth.
 c. ammonite. d. coral.

B Mention the name of the scientist who :

1. Discovered that the nucleus of an atom contains positively charged protons.
2. Discovered the main energy levels in the atom.
3. Postulated that the thickness of the ozone layer is 3 mm only under normal atmospheric pressure at 0°C.
4. Discovered that the periodicity of elements properties is related to their atomic number, not to their atomic weights.

C Compare between :

Acidic oxides and basic oxides (in terms of solubility in water).

Question 4

D Cross out the odd word and explain how other words are related.

1. Boron / Silicon / Sodium / Germanium.
2. Methyl bromide / Carbon dioxide / Water vapour / Methane gas.
3. Panda bear / Rhinoceros / Dodo bird / Bald eagle.
4. Mould / Angiosperms / Cast / Complete body fossil.

C Give reasons for :

The atomic size of elements in the same period decreases as their atomic number increases.

Question 4**A Mention each of the following :**

1. Measuring unit of the atomic size of elements.
2. A pollutant of ozone layer.
3. A simple ecosystem.
4. A link between reptiles and birds.

B Mention the name the scientist or the organism that is indicated by each of the following :

1. Discovered that the atom has 7 energy levels.
2. Postulated that the thickness of ozone layer is 3 mm at STP.
3. Discovered the positive protons inside the nucleus.
4. Organisms that are being protected in Ras Mohamed protectorate.

C What is the scientific principle of elements classification in the modern periodic table ?**23 Sohag Governorate**

El-Manahel Private Language School

Answer the following questions :

Question 1**A Complete the following sentences with suitable words :**

1. Elements of block are located on the left side of the modern periodic table, while the elements of block are located in the middle.
2. Sodium oxide is from oxides, while carbon dioxide is from oxides.
3. Halogens are, and form ions during chemical reactions.
4. The mold carries the details of the structure of the living organism, while the cast carries the details of the structure of the living organism.
5. and are from extinct species at the old geological ages.

B Give reasons for :

1. The desert is affected by the absence of one of its species.
2. Abnormal properties of water.

C If the temperature was 10°C at the height of 3 km. calculate the temperature at the sea level.

Question 2

A Choose the correct answer :

- is the scientist who arranged the elements in ascending order according to their atomic numbers.
a. Rutherford b. Moseley c. Mendeleev d. Bohr
- The difference in electronegativity between the elements of a polar compound is
a. very high. b. relatively low. c. zero. d. relatively high
- The high ratio of in drinking water leads to blindness.
a. chlorine b. mercury c. lead d. arsenic
- The planes fly in the lower part of
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
- protectorate is the first established natural protectorate in Egypt.
a. Saint Catherin b. Ras-Mohamed c. Wadi El-Hetan d. Petrified forest
- Archaeopteryx is a connection between and
a. fish and amphibians. b. reptiles and birds.
c. birds and mammals. d. amphibians and reptiles.

B Mention the use of each of the following :

- Radioactive cobalt 60.
- Halons.
- Van-Allen Belts.
- Hofmann's voltameter.

C Compare between :

- Ferns fossil and dinosaur's egg fossil (concerning the type of fossils).
- Infrared rays and ultraviolet rays (concerning their effect).

Question 3

A Write the scientific term :

- A type of water pollution resulted from dumping atomic wastes in oceans and seas.
- The weight of an air column of atmospheric height on a unit area.
- The solidified resinous matter which was secreted by pine trees in old geological ages.
- Elements that have the properties of metals and nonmetals.
- The continuous decrease in the number of a certain species of living organisms, without compensation until they all die out.
- An atmospheric layer contains limited quantities of helium and hydrogen gases only.

B What happens when ... ?

1. The continuous increase in the percentage of carbon dioxide gas.
2. Mendeleev predicted the discovery of new elements.

C Write the balanced chemical equations which express the following reactions :

1. Burning of magnesium in oxygen.
2. Sodium with water.

Question 4**A Put (✓) or (✗) in front of the following sentences :**

1. The modern periodic table consists of 18 horizontal periods and 7 vertical columns. ()
2. Metals don't react with acids. ()
3. The atomic size decrease in the same group in the modern periodic table, by increasing the atomic number. ()
4. Mixing human and animals wastes with water is considered as a biological pollution. ()
5. The upper part of the thermosphere is called the ionosphere. ()
6. Panda bear is from endangered species. ()

B What is meant by ... ?

1. Aurora phenomenon.
2. Chemical activity series.

C Locate the following elements in the modern periodic table :

1. Fluorine (${}_{9}\text{F}$).
2. Argon (${}_{18}\text{Ar}$).

24 Luxor Governorate

Arment Directorate

Answer the following questions :

Question 1**A Complete the following statements :**

1. Archaeopteryx fossil represents the link between and
2. Modern periodic table consists of horizontal periods and groups.
3. Elements of group (1A) are called alkali metals as their elements react with forming
4. The infrared rays have effect, while rays have chemical effect.

B What happens if ... ?

1. A metal atom losses one electron or more during the chemical reaction.
2. An organism is buried fast after death in snow.
3. Mixing of water with animal and human wastes.
4. Erosion of ozone layer over an area.

C Locate the following elements in the modern periodic table :1. $_{18}\text{Ar}$ 2. $_{20}\text{Ca}$ **Question 2****A Write the scientific term :**

1. The continuous decrease without compensation in the number of a certain speices until all members die out.
2. Charged layer which reflects radio waves.
3. Elements that starting to appear from period number four in the modern periodic table.
4. Appearance of bright colored light curtains at both poles of the Earth.

B Cross out the odd word :

1. Dodo bird / Bald eagle / Ibis bird / Rhinoceros.
2. Helium / Cesium / Xenon / Radon.
3. Sodium / Silver / Potassium / Cesium.
4. Oxygen / Nitrous oxide / Water vapor / Carbon dioxide.

C Compare between :

Mold and cast (according to definition).

Question 3**A Choose the correct answer :**

1. is the coldest layer of the atmospheric envelope.
a. Ionosphere b. Mesosphere c. Stratosphere d. Troposphere
2. Eating fish containing high concentration of causes death of the brain cells.
a. arsenic b. lead c. cobalt 60 d. mercury
3. The scientist had discovered the main energy levels.
a. Moseley b. Bohr c. Mendeleev d. Rutherford
4. The replaces the wood material part by part of an old tree.
a. copper b. minerals c. lead d. iron

B Give reasons for each of the following :

1. Pilots prefer to fly their planes in the lower part of the stratosphere.
2. Halogens are monovalent.
3. Formation of petrified woods fossils.
4. potassium is more active than sodium.

C Problem :

Calculate the height of a mountain, if the temperature at its foot is 30°C and at its top is -6°C .

Question 4**A Correct the underlined words :**

1. Meteors burnt in the stratosphere.
2. Pure water has alkaline effect on litmus paper.
3. Slides of copper are used in making computer sets.
4. Magnesium oxide is an acidic oxide.

B Put (✓) or (✗) :

1. Wavelength of near ultraviolet radiation is 280 : 315 nanometer. ()
2. Tropical forest is an example of complicated ecosystem. ()
3. Chlorine can replace bromine in its salt. ()
4. Quagga is an example of extincted animal in old geological ages. ()

C Write the balanced chemical equation for :

1. Burning of magnesium ribbon in air.
2. Reaction of sodium with water.

25 Aswan Governorate

M.M Yacoub Formal Language School

Answer the following questions :

Question 1**A Choose the correct answer :**

1. All are greenhouse gases, except
 a. CO_2 b. O_2 c. N_2O d. CH_4
2. Sodium oxide from oxides.
 a. amphoteric b. acidic c. nonmetallic d. basic

3. is an example of microfossils.

- a. Mammoth b. Ferns c. Foraminifera d. Archaeopteryx

4. There are bonds between the water molecules.

- a. hydrogen b. covalent c. ionic d. metallic

B What is meant by ... ?

1. Metalloids. 2. Fossil.

C What is the importance of ... ?

1. Silicon. 2. Cobalt 60.

Question 2

A Write the scientific term for each of the following statements :

1. The boundary separating between stratosphere and mesosphere where temperature is rather constant.
2. Replacing part by part the wood material of trees by minerals to form petrified woods.
3. Continuous increase of the average temperature of the air near the surface of the Earth.
4. A type of ultraviolet radiation that is absorbed completely (100 %) in the ozone layer.

B Compare between :

1. Mold and cast. (Regarding to the definition)
2. Mesosphere and thermosphere. (Regarding to the importance)

C Write the balanced chemical equations which express the reaction of :

1. Carbon dioxide with water.
2. Magnesium with dil. hydrochloric acid.

Question 3

A Locate the following elements in the modern periodic table :

1. $_{11}\text{Na}$ 2. $_{20}\text{Ca}$ 3. $_{13}\text{Al}$ 4. $_{18}\text{Ar}$

B Give reasons for :

1. Alkali metals are kept under the surface of kerosene in the lab.
2. The lower part of the stratosphere is suitable for flying airplanes.

C Cross out the odd word and mention the relation between the others :

1. Dodo bird / Quagga / Bald eagle / Mammoth.
2. Panda bear / Rhinoceros / Quagga / Bald eagle.

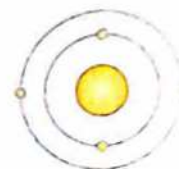
Question 4

A Complete the following statement :

1. The modern periodic table consists of horizontal periods, vertical groups.
2. Ultraviolet radiation has a effect, and the infrared radiation has a effect.
3. Fossil are used in exploration and determining the age of
4. The scientist Mendeleev arranged the elements ascendingly according to , while the scientist Moseley arranged them ascendingly according to

B Study the opposite figure which explains the electronic configuration for an element in the modern periodic, then conclude the atomic number of the element which follows this element in :

1. The same period.
2. The same group.



C Problem :

Calculate the height of a mountain, if the temperature at its foot is 30°C and at its top is -6°C .

Answer the following questions :

Question

1

A Complete the following statements :

1. The alkali metals are valent.
2. The suitable medium to form a mammoth fossil is
3. and are considered from ozone layer pollutants.
4. As we go up 1 km above sea level the temperature with °C.
5. Sodium is kept under the surface of, to prevent it from the reaction with
6. The elements of group 7 A are called
7. The glass permits the passage of rays and visible light.

B Correct the underlined word :

1. The strongest non-metal element occurs in the 1st group [1A].
2. The ferns fossil indicates that the environment it lived in was a seafloor.
3. Each group in the modern periodic table ends with inert gas.

Question

2

A Choose the correct answer :

1. The density of pure water in solid state is
 a. less than its density in liquid state. b. equal to its density in liquid state.
 c. greater than its density in liquid state. d. greater than its density in vapour state.
2. The hottest atmospheric layer is
 a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
3. The ozone hole appears over the
 a. north pole. b. equator. c. middle east. d. south pole.
4. The air moves in the stratosphere layer.
 a. horizontally b. vertically c. (a) & (b) d. no correct answer
5. The fossils exist in the sedimentary rocks in the Mokattam mountain are
 a. ferns. b. coral. c. nummiulite. d. all the pervious.
6. The volume of hydrogen gas evolving from water electrolysis equals the oxygen volume.
 a. that of b. double c. half d. four times

B Give reasons for :

1. The occurrence of aurora phenomenon.
2. Sulphur dioxide is considered as acidic oxides.

3. Water molecule is from polar molecules.
4. Rains, clouds, and winds are in the troposphere.

C Mention one example for :

- | | |
|----------------------|--------------------------------|
| 1. Endangered plant. | 2. Fossil of complete body. |
| 3. Petrified fossil. | 4. From the green house gases. |

Question 3

A Write the scientific term :

1. The atmospheric envelope layer that contains a certain limited amount of helium and hydrogen gases only.
2. The environmental system that is not affected severely by the absence of one species of the living organisms that live in it.
3. A bond that exists between water molecules.
4. The continuous decrease in the numbers of individuals from the same species of living organisms without compensation with birthing.
5. The process of conversion of the organic matter of an old living organism into solidified materials, due to replacing the organic matter by minerals.
6. Two magnetic belts help in dispersing the harmful cosmic radiation a way from the Earth.

B Mention one importance for :

- | | |
|----------------------|------------------------------|
| 1. Exosphere region. | 2. Altimeter. |
| 3. Silicon. | 4. Foraminafera microfossil. |

C Compare between the following :

1. Atmospheric pressure and atmospheric air. (Defination only)
2. Mesosphere and ionosphere. (Temperature only)

Question 4

A Put (✓) or (x) and correct the wrong ones :

- | | |
|---|-----|
| 1. Methyl bromide is used in extinguishing fires. | () |
| 2. The ozone layer allows the passage of all ultraviolet rays near and medium. | () |
| 3. The atomic size decreases in periods as the atomic number increases. | () |
| 4. Lacking of plants on Earth leads to the increase in temperature. | () |
| 5. The methane gas and nitrous oxide are considered from the green house gases. | () |
| 6. The Quagga is the most famous extinct kind in the old times. | () |
| 7. Nonmetal oxides are considered as basic oxides. | () |
| 8. The index fossil indicated the age of the sedimentary rocks. | () |

B What happens in the following situations ... ?

1. Adding the purple sun flower solution to a jar has a piece of burning coal.
2. The passage of electric current through a Hofmann's voltameter containing acidic water.
3. Extinction of a species from a balance ecosystem.
4. Put a lightening magnesium strip inside a test tube contains oxygen.

C Write the symbolic chemical equations representing the following reactions :

1. The reaction between chlorine gas and potassium bromide.
2. Dissolving of magnesium oxide in water.

2 Cairo Governorate

Al-Waha Language School

Answer the following questions :

Question**1**

Complete the following statements :

1. Moseley located and elements below its table.
2. The atomic size of lithium (${}_3\text{Li}$) atom is than that of the nitrogen (${}_7\text{N}$) atom and than that of sodium (${}_{11}\text{Na}$) atom.
3. The bond between hydrogen atom and oxygen atom in water molecule is bond, while bonds among water molecules are bond.
4. When the temperature of water decreases than 4°C its decreases, while its volume
5. Ozone gas is formed in two steps which are :
a. $\text{O}_2 \xrightarrow{\text{UV}} \text{O} + \dots\dots\dots$ b. $\text{O} + \dots\dots\dots \longrightarrow \text{O}_3$
6. is the unit used to measure the degree of ozone.
7. Meteors burn in layer of atmosphere.
8. protectorate is the first established natural protectorate in Egypt.
9. During the chemical reaction, metal atom tends to electrons.

Question**2****A Calculate the atomic number of the following elements :**

1. An element is located in the 3rd period and group (2 A).
2. An element is located in the 3rd period and group (7 A).

B Write the scientific term for each of the following :

1. The continuous increase of the average temperature of the air near the surface of the Earth.
2. The measuring unit of the atmospheric pressure.
3. Fossils are formed as a result of the rapid burying of organisms in a medium that preserved them from decomposing.
4. The inert gas, which has the same electronic structure of sodium ion (Na^+).
5. The bond which is responsible for the abnormal properties of water.
6. The weight of air column of an atmosphere height above a unit area.
7. The atmospheric layer, in which the ozone layer is located.
8. A part from million of million part of metre.
9. One of the atmosphere components that its ratio increase in recent years to reach about 0.038 %.
10. Traces and remains of old living organisms that are preserved in the sedimentary rocks.

C Calculate the volume of the gas that evolves at the anode if the volume of the gas that evolves at the cathode is 24 cm^3 **Question****3****A Give reasons for :**

1. El-Mokattam's mountain was a sea floor more than 35 million years ago.
2. The desert ecosystem is significantly affected by the absence of one of its species.
3. The lower part of stratosphere is suitable for flying aeroplanes.
4. Liquefied nitrogen is used in the preservation of cornea of the eye.

B Choose from column (B) what suits in column (A) :

(A)	(B)
1. Mesopause	a. protects man's life from ultraviolet rays.
2. Tropopause	b. protect man's life from cosmic radiations.
3. Ozone layer	c. is the region between mesosphere and thermosphere.
4. Van-Allen belts	d. is the region between mesosphere and stratosphere.
5. Ionosphere	e. is the region between stratosphere and troposphere.
6. Stratopause	f. is a layer used in wireless communication.
	g. its thickness is 13 kilometers.

Question**4****A How can you differentiate chemically between Copper and magnesium [Using HCl] ?**

[Write the chemical equation if it is possible]

- B** Find the temperature at a point of a height 3 km above sea level if the temperature at sea level is 22°C .
- C** Locate the position of the following elements in the modern periodic table :
[Electronic configuration, group number and period number].
1. Hydrogen (${}_1\text{H}$).
 2. Neon (${}_{10}\text{Ne}$).
 3. Calcium (${}_{20}\text{Ca}$).
- D** Correct the underlined words :
1. As we move down in group (7A) the metallic property decreases.
 2. Electronegativity decreases as we move from left to right in periodic table.
 3. The first discovered fossil of mammoth were found preserved in amber.
 4. Destroying the habitat is one of the factors that contribute to species adaptation.

3

Cairo Governorate

Manarat AlFarouk Islamic Language School

Answer the following questions :

Question

1

- A** Write the scientific term for each of the following :
1. A phenomenon that appears as brightly coloured light curtains seen at both poles of Earth.
 2. The disturbed atmospheric layer.
 3. Gradual decrease in the number of living organisms without compensation until all die out.
 4. Elements, which have more than four electrons in their outermost energy level.
 5. The weight of air column of an atmospheric height on a unit area.
 6. The process of replacing the wood material of trees by silica to form petrified woods part by part.
 7. The descending arrangement of metal elements according to their chemical activity.
 8. Safe areas, which are established to protect endangered species in their home land.
- B** Give reasons for :
1. Fossils are important.
 2. Ionosphere is important for radio stations.
 3. Amber is considered as a suitable medium for formation of complete body fossils.

Question

2

- A** Write the balanced chemical equations that illustrate the following reactions :
1. Putting a piece of sodium in water.
 2. Passing chlorine gas in potassium bromide solution.
 3. Formation of ozone gas.

B Choose the correct answer :

- Luminous meteors are formed in layer.
 - ionosphere
 - stratosphere
 - exosphere
 - mesosphere
- The transitional elements start to appear from period
 - 2
 - 3
 - 4
 - 5
- An example of microfossils is
 - mammoth.
 - ferns.
 - radiolaria.
 - archaeopteryx.
- All of the following are greenhouse gases except
 - CO₂
 - O₂
 - N₂O
 - CH₄

C Mention one difference between each of the following :

- Simple ecosystem and complicated ecosystem. (Concerning the effect of extinction).
- Group "1 A" and group "7 A".

Question**3****A Locate the position of the following elements in the modern periodic table with showing your steps :**

- $^{39}_{19}\text{K}$
- $^{27}_{13}\text{Al}$
- $^{19}_9\text{F}$

B Rewrite the following sentences after correcting the underlined words :

- Barometer is used to measure the degree of water pollution.
- Ferns fossils indicate that they lived in mild environment.
- When the temperature of water decreases to less than 0°C, its density decreases and, so it floats on water surface in the form of ice crystals.
- Most halogens are trivalent metals.

C On electrolysis of a certain volume of acidified water, if the volume of evolved gas above the anode was 2.5 cm³ :

- Calculate the volume of the evolved gas above the cathode.
- What is the name of the gas that evolves above the anode and above the cathode ?
- Mention the name of the apparatus, which is used in this process.

Question**4****A What happens in each of the following cases ... ?**

- Storing drinking water in plastic bottles.
- The overuse of methyl bromide as an insecticide.

PART

3

B Mention one importance for each of the following :

1. Cobalt 60.
2. Stratosphere.

C Cross the odd word and write the scientific term that represents the others :

1. Dodo bird / Bald eagle / Mammoth / Quagga.
2. Lithium / Cesium / Sodium / Magnesium.
3. Halons / Nitrogen oxides / Carbon dioxide / Chlorofluorocarbon compounds.

4

Cairo Governorate

St. Joseph Maronite Language Schools

Answer the following questions :

Question

1

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. The highest temperature layer in the atmosphere is and the lowest temperature one is
3. Sodium is kept under the surface of to prevent it from the reaction with

B Give reasons for each of the following :

1. Petrified woods are considered from fossils although they look like rocks.
2. The lower part of the stratosphere is suitable for flying aeroplanes.

C If the temperature at the foot of a mountain is 40°C . Calculate the temperature at its top if the height of the mountain is 3 km.

Question

2

A Write the scientific term :

1. The ability of the atom in the covalent molecule to attract the electrons of the chemical bond towards itself.
2. Traces and remains of the old living organisms that are preserved in sedimentary rocks.
3. A phenomenon that appears as brightly coloured light curtains at both the poles of the Earth.
4. Continuous decrease without compensation in the number of a certain species of living organisms until all die out.
5. The measuring unit of the degree of ozone layer.
6. Part of a million of the million part of a metre.

B Locate the position of each element in the modern periodic table :

1. Calcium ($_{20}\text{Ca}$).
2. Sulphur ($_{16}\text{S}$).

C Mention one importance for :

1. Altimeter.
2. Troposphere layer.

Question 3**A What happens in the following situations ... ?**

1. Putting a magnesium strip in a test tube containing oxygen.
2. Dissolving magnesium oxide in water.
3. The passage of electric current through Hofmann's voltameter containing acidic water.

B Compare between :

1. Mold and cast.
2. Natural and artificial water pollutants.

C Define :

1. Van-Allen belts.
2. Greenhouse effect.

Question 4**A Put (✓) or (x) :**

1. Halogens are from monovalent metals. ()
2. Bohr had discovered the main energy levels. ()
3. The atomic size decreases in periods as the atomic number increases. ()
4. Each period starts with a weak metal. ()
5. Troposphere contains most of atmospheric envelope. ()
6. The ozone layer locates at altitude from 20 – 40 km above sea level. ()

B Mention one example for each of the following :

1. Extinct bird.
2. Most active metal.
3. Endangered bird.
4. A complete body fossil.

C Write the symbolic chemical equations that illustrate the following reactions :

1. Dissolving carbon dioxide in water.
2. Putting a piece of sodium in water.

5

Cairo Governorate

East Nasr City Educational Directorate

Answer the following questions :

Question

1

Choose the correct answer :

- When sodium reacts with water gas evolves.
a. N₂ b. O₂ c. H₂
- Luminous meteors are formed in layer.
a. ionosphere b. stratosphere c. mesosphere
- Complete body fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks.
- The scientist had discovered the main energy levels.
a. Bohr b. Moseley c. Mendeleev
- is considered from halogens.
a. Sodium b. Chlorine c. Helium
- There are bonds among the water molecules.
a. metallic b. ionic c. hydrogen
- Ozone degree is measured in a unit called
a. km. b. dobson. c. mm².

B Give reasons for :

1. Pilots prefer to fly their planes in stratosphere.
2. Elements of the same group have similar properties.
3. Liquefied nitrogen is used in the preservation of cornea of the eye.

④ Mention the importance of each the following :

1. Hofmann's voltameter.
2. Nummulites fossils.
3. Altimeter.
4. Cobalt 60.

Question

2

A Put (✓) sign or (x) sign in front of the following sentences :

1. Water and ammonia are from polar compounds. ()
2. Methyl bromide gas is used as an insecticide. ()
3. Mendeleev arranged the elements ascendingly according to their atomic number. ()
4. Ferns fossils indicate that the environment where they lived was a sea floor. ()
5. Dodo bird and Quagga are from extinct species in the recent time. ()

B Problem : Calculate the height of a mountain if the temperature at its base is 30°C at its top is (-9°C) .

C Compare between each in the following :

1. Simple ecosystem and complicated ecosystem. (Example)
2. Basic oxides and acidic oxides. (According to dissolving in water)
3. Group (1 A) and group (7 A). (Related to its name)

Question

3

A Write the scientific term for each in the following :

1. It is the continuous decrease without compensation in the number of a certain species of living organisms until all members of species die out.
2. It is a series in which metals are arranged in descending order according to their chemical activity.
3. It is the continuous increase in the average temperature of the Earth's near-surface air.
4. They are traces and remains of old living organisms that are preserved in sedimentary rocks.
5. It is used to measure the atmospheric pressure.
6. They indicate the age of sedimentary rocks existed in them.
7. It is the number of protons inside the nucleus of the atom of an element.

B Complete and balance the following equations :

1. $\text{Mg} + \dots \xrightarrow{\text{dil.}} \text{MgCl}_2 + \text{H}_2 \uparrow$
2. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots$
3. $\text{Br}_2 + 2 \text{KI} \longrightarrow \dots + \dots$

C What will happen in each of the following cases ... ?

1. Storing water in plastic bottles.
2. Overuse of freon.
3. Eating fish contains high concentration of lead.

Question

4

A Complete the following statements :

1. The modern periodic table consists of horizontal periods and vertical groups.
2. Archaeopteryx is the link between and
3. The highest temperature layer in the atmosphere is and the lowest temperature one is
4. Fossils are used in petroleum and determining the age of
5. Sodium is kept under the surface of to prevent it from the reaction with

B Give one example for :

1. Complete body fossil.

2. A natural protectorate.

© Locate the position of the following elements in the modern periodic table :

 $1. {}_{17}\text{Cl}$ $2. {}_{20}^{40}\text{Ca}$

6

Cairo Governorate

Maadi Educational Directorate

Answer the following questions :

Question

1

A Complete each of the following statements :

1. The highest temperature atmospheric layer is, while the lowest temperature atmospheric layer is
2. and are examples of extinct animals.
3. From the pollutants of the ozone layer are and
4. During the electrolysis of acidified water by Hofmann's voltameter, the gas evolves at the anode, while the gas evolves at the cathode.

B What is meant by each of the following ... ?

1. Chemical activity series.

2. Fossils.

Question

2

A Choose the correct answer :

- All of the following are from the greenhouse gases except
a. CO₂ b. N₂O c. O₂
- Halogens are non-metals.
a. monovalent b. divalent c. trivalent
- Meteors are burned in the
a. ionosphere. b. mesosphere. c. stratosphere.
- The first protectorate established in Egypt is protectorate.
a. Bluestone b. Panda c. Ras Mohamed

B Give reasons for :

1. The presence of hydrogen bond between water molecules.
2. The simple ecosystem is affected strongly at the absence of one of its species found in it.
3. The lower part of the stratosphere is suitable for flying the aeroplanes.

Question 3

A Write the scientific term :

1. The scientist who discovered that the nucleus of the atom contains positively charged protons.
2. The fossils that are found in the limestone rocks of Mokattam mountain indicate that it was a sea floor since more than 35 million years ago.
3. Group of food chains connected with each other.
4. The ability of the atom in covalent molecule to attract the electrons of the chemical bond towards itself.

B Locate the position of each of the following elements in the modern periodic table :

1. $_{18}\text{Ar}$ 2. $_{7}\text{N}$

C Write balanced chemical equation representing each of the following :

1. The reaction between magnesium and dilute hydrochloric acid.
2. The reaction between chlorine and potassium bromide.

Question 4

A Correct the underlined words :

1. Mendeleev arranged the elements according to their atomic number.
2. Mammoth fossil is an example of microfossils.
3. Dobson assumed that the natural amount of the ozone equals 100 Dobson units.
4. Alkali metals are bad conductors of heat and electricity.

B Mention the use (importance) of each of the following :

1. Liquefied nitrogen.
2. Van-Allen belts.

C Calculate the temperature at the top of a mountain, if the temperature at the mountain base is 36°C and its height is 4 km.

7 Giza Governorate

Lycee El-Haram Language School

Answer the following questions :

Question 1

A Complete the following sentences :

1. Fossils are often found in rocks.
2. The alkali metal elements are valent.
3. $\text{Mg} + 2\text{HCl} \longrightarrow \dots\dots\dots + \dots\dots\dots$
4. Bromine replaces in its salt solution.

PART

3

5. Element $_2X$ is located in group in the modern periodic table.
6. Eating fish which contains high ratios of lead causes
7. The nanometer = m.

B Give reasons for :

1. The global warming has a dangerous effect over the Earth.
2. El-Mokattam's mountain was once a sea floor more than 35 million years ago.

Question**2****A Choose the correct answer for the following statements :**

1. Scientist discovered the main energy levels in the atom.
a. Bohr b. Mendeleev c. Moseley d. Hofmann
2. Aluminium oxide from oxides.
a. amphoteric b. acidic c. nonmetallic d. basic
3. An example of extinct species
a. panda bear. b. rhinoceros. c. quaga. d. papyrus plant.
4. All are greenhouse gases except
a. CO_2 b. O_2 c. N_2O d. CH_4
5. The air moves in the stratosphere layer.
a. horizontally b. vertically c. whirlwind motion d. no correct answer
6. All the following elements from semimetals except
a. tellurium. b. silicon. c. boron. d. bromine.
7. There are bonds in a sample of water.
a. covalent b. hydrogen c. ionic d. covalent and hydrogen

B Calculate the height of a mountain if the temperature at its foot is $30^\circ C$ and at its top is $(-9^\circ C)$.**Question****3****A Correct the underlined words in the following statements :**

1. Insect in amber is an example of microfossils.
2. Each period in the periodic table ends with a metal.
3. Bald eagle is from the birds that can't fly because of its small wings.
4. The elements of block (P) are organized in 10 groups in the periodic table.
5. Sodium is considered as the most active metal in the periodic table.

B Compare between each of the following :

1. Mold and trace. (In view of their definitions and example for each)
2. Aneroid and altimeter. (In view of their usage)

Question 4

A Write the scientific term for each of the following statements :

1. It is the ability of an atom in the covalent compound to attract the bonded electrons to itself.
2. Fossil links between reptiles and birds.
3. Phenomenon appears as brightly coloured light curtains at both the north and the south poles of the Earth.
4. Continuous increase of the average temperature of the air near the surface of the Earth.
5. A kind of water pollution results from mixing of humans and animals wastes with water.
6. Measuring unit of ozone degree.

B Mention one importance :

1. Liquefied nitrogen.
2. Ozone layer.
3. Index fossils.

C Explain the effect of extinction of a species of living organisms on simple ecosystem and complicated ecosystem.

8

Giza Governorate

Talaee Islamic Language School

Answer the following questions :

Question 1

A Complete the following statements :

1. The number of groups in p-block is in modern periodic table.
2. Sodium reacts with water to produce gas.
3. From the pollutants of ozone layer are , and
4. The measuring unit of atmospheric pressure is , while the measuring unit of ozone degree is

B Calculate the temperature at the sea level if the temperature at height of 7500 m above sea level is (-15°C) .

C What's meant by ... ?

1. Greenhouse effect.
2. Fossils.

Question 2

A Write the scientific term for each of the following statements :

1. Element, which is used in food preservation.
2. The region in which satellites orbit around the Earth planet.
3. It is the curved lines that join the points of equal pressure in atmospheric pressure maps.

PART

3

- Two magnetic belts surrounding ionosphere and play an important role in scattering harmful charged cosmic radiation.
- A bond that exists between water molecules.

B How can you differentiate between each of the following ... ?

- Copper and magnesium. (Use a balanced equation)
- Carbon dioxide and sodium oxide.

Question

3

A Choose the correct answer :

- Fossils are found in rocks.
a. metamorphic b. sedimentary c. igneous d. no correct answer
- is from the recent extinction animal.
a. Mammoth b. Panda bear c. Quagga d. Bald eagle
- Meteors are formed in layer.
a. ionosphere b. stratosphere c. mesosphere d. troposphere
- The devices, which is (are) used in measuring the atmospheric pressure is (are)
a. ammeter. b. aneroid. c. altimeter. d. (b) and (c).

B Mention one difference between :

- Mold and cast.
- Positive ion and negative ion.

C Mention by the chemical equation the effect of adding :

- Bromine to potassium iodide.
- Dilute hydrochloric acid to carbon.

Question

4

A Give reasons for :

- Occurrence of old extinction.
- Ozone layer is formed in stratosphere.
- Elements of the same group have similar chemical properties.
- Pure water has no effect on litmus paper.

B Locate the position of the following element in the modern periodic table :

- $({}_2X)$
- $({}_{20}Y)$
- $({}_8Z)$

C Put (✓) in front of the correct statements and or (✗) in front of the wrong ones and correct the incorrect ones :

- Water and ammonia are non-polar compounds. ()
- Eating fish which contain high percentage of lead causes blindness. ()
- Liquefied sodium is used in the preservation of the eye cornea. ()

9

Giza Governorate

Official Language Schools

Answer the following questions :

Question

1

A Complete the following sentences :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. The highest temperature layer in the atmosphere is and the lowest temperature one is
3. bear is one of the most endangered species.
4. Elements of group (1A) are called
5. Ultraviolet rays (UV) have effect, while infrared rays have effect.
6. Most of weather features occur in layer.

B Locate the position of these elements in the modern periodic table :

1. $_{20}\text{Ca}$ 2. $_{10}\text{Ne}$

C Mention one example for each of the following :

1. A metalloid element.

2. A greenhouse gas.

3. Extinct species.

Question

2

A Write the scientific term for each of the following :

1. The death of all members of species of living organisms.
2. The metalloid that is used in manufacture of electronics such as computer.
3. A phenomenon that appears as brightly coloured light curtains at the north and south poles of Earth.
4. The elements which have the properties of both metals and nonmetals.
5. The arrangement of elements in a descending order according to their chemical activity.
6. Two magnetic belts that help in scattering of harmful cosmic radiations away from the Earth.

B Mention one use for each of the following elements in modern technology :

1. Cobalt 60.

2. Altimeter

3. Ozone layer

C If the temperature at the sea level equals 30°C , find the temperature at a height of 4 km. above the earth's surface.

Question 3

A Give reasons for :

1. Elements of the same group have similar chemical properties.
2. The lower part of the stratosphere is suitable for flying aeroplanes.
3. Water has high boiling point and high freezing point.
4. El-Mokattam's mountain was a sea floor more than 35 million years ago.

B Choose the correct answer :

- The degree of ozone is measured by unit.
a. picometre b. par c. dobson
- represents the link between reptiles and birds.
a. Archaeopteryx b. Fish c. Quagga
- protectorate is the first established natural protectorate in Egypt.
a. Saint Cathrine b. Ras Mohamed c. Wadi Hetan
- Sodium oxide from oxides.
a. amphoteric b. acidic c. basic
- Each period in the modern periodic table starts with (a/an) element.
a. metallic b. inert c. nonmetallic
- Meteors are formed in
a. ionosphere. b. mesosphere. c. stratosphere.
- The strongest metal locates in the group.
a. 2 A b. 1 A c. 7 A
- All of the following are endangered species except
a. panda bear. b. bald eagle. c. dodo bird.

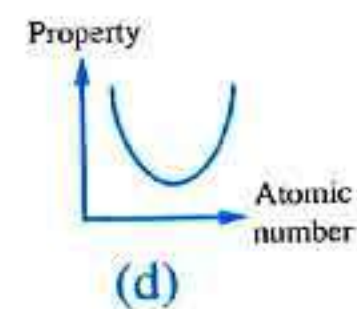
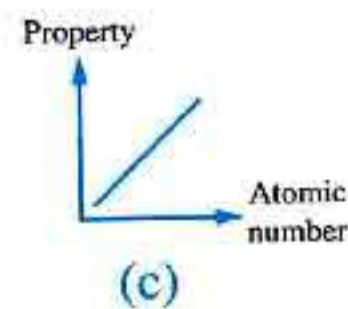
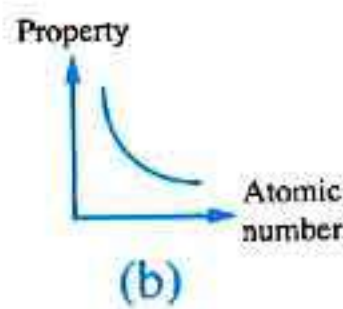
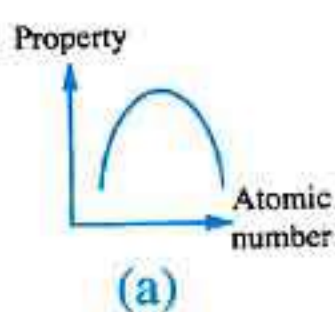
Question 4

A Put (✓) or (x):

1. Ozone layer is formed in troposphere layer. ()
2. Halons are from the pollutants of ozone layer. ()
3. Fossils are used to indicate the age of sedimentary rocks. ()
4. The satellites revolve around the Earth in a region called the troposphere. ()
5. Modern periodic table consists of 7 groups and 16 periods. ()
6. Water and ammonia are from polar compounds. ()
7. The solutions produced from dissolving the non-metal oxides in water turn the violet litmus solution into red. ()
8. Tropical forest is an example of simple ecosystem. ()

B Which of the following figures represents ... ?

Graduation of the atomic size in the third period.



10

Giza Governorate

Pyramids Language Schools

Answer the following questions :

Question

1

A Write the scientific term :

1. Elements which have the properties of both metals and nonmetals.
2. Series in which metals are arranged in a descending order according to their chemical activity.
3. Thinning or losing parts of ozone layer above the south pole.
4. It is a region in which the atmospheric envelope is inserted with outer space.
5. They are safe areas established to protect endangered species in their homeland.

B Mention one function for :

1. Van-Allen belts.
2. Liquefied nitrogen.

C Choose the odd word from the following :

1. Nitrogen oxides - Water vapour - Halons - Methyl bromide.
2. Quagga - Dodo bird - Dinosaur - Bald eagle.

Question

2

A Complete the following :

1. Both sodium ($_{11}\text{Na}$) and potassium ($_{19}\text{K}$) are located in the same because they have the same number of
2. Mesosphere layer is highly rarefied because it contains limited quantities of and gases only.
3. Water has the ability to dissolve some of covalent compounds such as, because it can form bond with water molecules.
4. is a type of barometer used to determine the day weather, while is used to measure the elevation from sea level.

B Give reasons for :

1. By increasing the atomic number among groups, the atomic size increases.
2. Adding few drops of dilute sulphuric acid to water during its electrolysis by Hofmann's voltameter.

C Mention one harm for the following :

1. Global warming.
2. Biological pollution.

Question

3

A Correct the underlined word :

1. Elements of group 1A are known as halogens.
2. Covalent bond is a weak electrostatic attraction force which arises among water molecules.
3. Mammoth is one of the examples of petrified fossils.
4. Coral fossils indicate that the environment where they lived was hot and rainy tropical environment.

B Problem : Calculate the height of a mountain if temperature at its base is 30°C and at its top is -9°C .

C What will happen if ... ?

1. Adding some water to magnesium oxide followed by drops of violet litmus solution.
2. The resinous matter, which was secreted by pine trees falls on an insect.

Question

4

A Choose the correct answer :

- Most of alkali metals have density.
a. low b. high c. same
- The scientist who discovered that the nucleus of the atom contains positively particles is
a. Mendeleev. b. Bohr. c. Rutherford.
- Pilots prefer to fly their planes in
a. exosphere. b. stratosphere. c. thermosphere.
- is one of the most important reasons of the recent extinction age.
a. Volcanic eruption b. Long glacial age c. Overhunting
- The unit which used to measure ozone degree is
a. Dobson. b. millibar. c. nanometer.

B Compare between simple and complicated ecosystems (definition only).

© Complete the following equations :

1. $2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}}$ +
2. $\text{Br}_2 + 2\text{KI} \longrightarrow$ +

11

Alexandria Governorate

East Educational Zone

Answer the following questions :

Question

1

A Complete the following statements :

1. Mendeleev discovered that the atomic weights of element increase on moving from side of the table to the side in horizontal row, which were later called
2. Non-metal oxides dissolve in water forming, which turn the litmus solution into
3. Mesosphere layer is much vacuumed as it contains limited amount of and gases.
4. The atmospheric pressure by increasing the length of air column.
5. Fluorine and chlorine exist in a state, while iodine exists in a state.

B What is meant by ... ?

1. Aurora phenomenon.
2. Electronegativity.

C Write the symbolic balanced chemical equations that illustrate the following reactions :

1. Reaction of chlorine gas with potassium bromide solution.
2. Reaction of sodium with water.

Question

2

A Write the scientific term :

1. What an old living organisms left during its life indicating its activity.
2. The region between stratosphere and mesosphere and at which the temperature remains constant.
3. A charged layer, which reflects radio waves.
4. The continuous increase in the average temperature of the Earth's near-surface air.
5. Elements, which have the properties of metals and nonmetals.
6. Fossils used in determination of the age of sedimentary rocks.

B Locate the position of the following elements in the modern periodic table :

1. ${}_{19}\text{K}$ 2. ${}_{2}\text{He}$

C Find temperature at a point of height 10000 meters above sea level if temperature at the sea level is 24 C.

PART

3

Question

3

A Choose the right answer :

- Magnesium oxide is considered as oxides.
a. acidic b. nonmetallic c. basic d. metallic
- Complete body fossils of insects are found preserved in
a. amber. b. ammonites. c. igneous rocks. d. mammoth.
- All of the following cause erosion of ozone layer except
a. aerosols. b. freon. c. nitrogen oxides. d. iron oxides.
- Satellites orbit in of the Earth.
a. exosphere b. thermosphere c. mesosphere d. stratosphere
- All are greenhouse gases except
a. CO_2 b. CH_4 c. N_2O d. O_2
- The atmospheric pressure on the top of a mountain is the atmospheric pressure at the sea level.
a. less than b. more than c. equal to d. half

B Give reasons for :

- Elements of the same group have similar properties.
- Ozone layer acts as a protective shield for living organisms.

C Mention the importance of :

- Halons.
- Cobalt 60

Question

4

A Put (✓) or (×) each of the following and correct the wrong ones :

- Hofmann's voltammeter is used for water ionization. ()
- Water molecules are linked together by ionic bond. ()
- Sodium is used in the preservation of the eye cornea. ()
- Meteors are burnt in thermosphere layer. ()
- Dobson is the unit of measuring the ozone degree. ()

B Fill the missing spaces in the table :

Water pollution	Kind of pollution	Harms
1. Discharging of factories wastes in rivers.	Blindness.
2.	Biological pollution.
3. Using some water areas in cooling of nuclear reactors.	Destruction of the marine organisms.

12

Alexandria Governorate

El-Agamy Educational Zone

Answer the following questions :

Question

1

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. Ultraviolet rays have effect, while infrared rays have effect.
3. The highest temperature layer in the atmosphere is and the lowest temperature one is
4. and are metals, which don't react with water.
5. Archaeopteryx represent the link between and

B Give one use for :

1. Cobalt 60.
2. Van-Allen belts.

Question

2

A Write the scientific term :

1. Elements having the properties of metals and nonmetals.
2. A water pollutant which causes the death of brain cells.
3. Traces and remains of old living organisms that are preserved in sedimentary rock.
4. A charged layer reflect radio waves.
5. A phenomenon that appear as bright colours at the two poles.

B Find the temperature at the top of a mountain its height is 3 km, if temperature at the sea level is 20°C.

Question

3

A Choose the correct answer :

1. All the following are endangered species except
 a. panda bear. b. bald eagle. c. quagga. d. rhinoceros.
2. From gaseous elements in group (7 A) is (are)
 a. chlorine. b. iodine. c. fluoroine. d. (a) & (c) together.
3. The ozone degree is measured in a unit called
 a. km. b. °C. c. Dobson. d. millibar.
4. Complete body fossils of insect are found preserved in
 a. ammonites. b. amber. c. snow. d. igneous rock.
5. Meteors are formed in layer.
 a. mesosphere b. ionosphere c. exosphere d. stratosphere

PART

3

B Locate the position of the following elements in the modern periodic table :

1. ${}_{19}\text{K}$

2. ${}_{10}\text{Ne}$

Question

4

A Correct the underlined words :

- Each period ends with a nonmetal.
- If the metal lost one electron or more, it will become a negative ion.
- The desert environment is an example of the complex ecosystem.

B Give reasons for :

- Water and ammonia are polar covalent compounds.
- The atomic size increases through group.

C Write the balanced chemical equations representing each of the following :

- Magnesium with hydrochloric acid.
- Reaction of sodium with water.

13

Alexandria Governorate

Montazah Educational Zone

Answer the following questions :

Question

1

A Complete the following sentences :

- Ozone layer locates in layer.
- Radiolaria fossil is an example of, but amber fossil is an example of
- There are bonds between molecules of water.
- $2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}} \dots + \dots$
- is an instrument used to determine the possible day weather, but to analysis the water by electricity.
- Ultraviolet radiation has a effect, and the infrared radiation has a effect.

B What is meant by ... ?

- Protectorate.
- Chemical Activity Series.

C What is the importance of ... ?

- Liquefied nitrogen.
- Co 60

Question

2

A Choose the correct answer :

- Scientist discovered the main energy levels in atom.
a. Bohr b. Mendeleev c. Moseley

2. Sodium oxide is from oxides.
 a. amphoteric b. acidic c. basic
3. When water freezes, its density
 a. increases. b. decreases. c. doesn't change.
4. When sodium react with water gas evolves.
 a. O_2 b. CO_2 c. H_2

B What is the result of the following ... ?

1. Presence of Van-Allen belts. 2. Storing water in plastic bottles.

C Calculate the height of the mountain if the temperature at the base is $30^\circ C$ and at its top is $-6^\circ C$.

Question

3

A Write the scientific term :

1. The vertical columns in Mendeleev's table.
 2. The region where the atmospheric envelope is inserted in outer space.
 3. A solid halogen.

B Write the symbolic balanced chemical equations that illustrate the following reactions :

1. Magnesium with dill hydrochloric acid.
 2. Chlorine gas with potassium bromide solution.

C Study the opposite figure, then answer :

1. Locate the position of element $_{11}B$
 2. What are the atomic number of elements E, C in modern periodic table ?

A	
$_{11}B$	E
C	
D	

Question

4

A Put (✓) or (x) and correct :

1. The air moves horizontally in the lower part of the stratosphere. ()
 2. Copper metal doesn't react with water. ()
 3. Halogens are monovalent metals. ()
 4. The unit of measuring atomic radius is Dobson unit. ()

B Give reasons for :

1. Ammonia is considered as a polar covalent compound.
 2. The atomic size of $_{11}Na$ is greater than $_{17}Cl$.

C Explain the role of ultraviolet rays in formation of ozone gas.

Answer the following questions :

Question

1

A Complete the following sentences :

1. $2\text{H}_2\text{O} \longrightarrow \dots + \dots$
2. Lithium and sodium on the surface of water as their densities are than water density.
3. There are three types of ultraviolet rays, near ultraviolet rays and
4. The atmospheric envelope height above sea level is, while normal atmospheric pressure equals millibar.
5. $\longrightarrow \text{MgCl}_2 + \text{H}_2$

B Locate the position of the following elements in the modern periodic table :

1. $_{13}\text{Al}$ 2. $_{10}\text{Ne}$ 3. $_{17}\text{Cl}$

C Compare between the following :

Old extinction and recent extinction (concerning its causes).

Question

2

A Write the scientific term, which refers to each of the following statements :

1. The descending arrangement of elements according to their chemical activities.
2. A phenomenon that appears as brightly coloured light curtains at both the poles of the Earth.
3. Remains or traces of organisms that lived in the past were preserved in sedimentary rocks.
4. Continuous decrease in the number of species without compensation until all die out.

B Write the balanced chemical equations representing the following reactions :

1. The reaction between magnesium and dilute hydrochloric acid.
2. The reaction between bromine with potassium iodide.
3. The electrolysis of water.

C Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question

3

A Choose the correct answer :

1. The scientist had discovered the main energy levels.
a. Moseley b. Bohr c. Hofmann d. Mendeleev

2. The modern periodic table consists of horizontal periods.
a. 7 b. 10 c. 14 d. 18
3. Atmospheric pressure is the of air column of an atmospheric height on a unit area.
a. mass b. volume c. weight d. density
4. Ozone layer is found in layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere
5. is an example of microfossils.
a. Mammoth b. Ferns c. Foraminifera d. Archaeopteryx

B Give reasons for :

1. Sodium is kept under the surface of kerosene.
2. Liquefied nitrogen is used in the preservation of cornea of the eye.
3. The continuity of the ozone layer erosion.

C What is meant by ... ?

1. Polar compound.
2. Water pollution.

Question 4

A Correct the underlined words :

1. Each period ends with a nonmetal.
2. Chemical pollution of water causes many diseases as typhoid and hepatitis.
3. Infrared radiation has a chemical effect.
4. Panda bear is considered from extinct species.
5. Ozone degree is measured in a unit nanometer.

B Mention one example for :

1. Petrified fossils.
2. Natural protectorate found in South Sinai in Egypt.
3. An alkali metal that is kept under surface of paraffin oil only.

C What happens when ... ?

1. Adding the purple sunflower solution to a jar has a piece of burning coal.
2. The pollution of water with animals and human wastes.

15 Sharkia Governorate

Formal Language Schools

Answer the following questions :

Question 1

A Complete the following sentences :

1. From the extinct animals in the old ages and

2. Ultraviolet radiation has a effect and the infrared radiation has a effect.
3. The bond between oxygen and hydrogen atoms in water molecule is, while bond among water molecules are
4. Fossils are used in exploration and determining the age of

B Give reasons for :

1. Liquefied nitrogen is used in the preservation of the eye cornea.
2. Elements of group 1A are known as alkali metals.

C What is the importance of ... ?

1. Altimeter.
2. Liquid sodium.

Question**2****A Write the scientific term :**

1. A series in which metals are arranged in a descending order according to their chemical activity.
2. A kind of elements in which their valence electrons contain less than 4 electrons.
3. The continuous decrease in the number of individuals of the species of organisms without compensation.
4. A phenomena appears as brightly coloured lighted curtains at both poles of the Earth.

B What is meant by ... ?

1. Fossils.
2. Metalloid.

C Locate the position of the following elements in the modern periodic table :

1. $_{11}\text{Na}$
2. $_{20}\text{Ca}$
3. $_{3}\text{Li}$

Question**3****A Choose the correct answer :**

1. The elements which occupy the middle block(d) in the periodic table
a. alkali metals. b. transition elements. c. inert elements. d. halogens.
2. The ozone hole increases in of each year.
a. October b. September c. December d. January
3. The hottest atmospheric layer is the
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
4. The scientist who discovered the main energy level is
a. Mendeleev. b. Bohr. c. Moseley. d. Rutherford.
5. Fossils are often found in rocks.
a. metamorphic b. sedimentary c. volcanic d. igneous

B Write the symbolic chemical equations for the following reactions :

1. Dissolving of magnesium oxide in water.
2. The reaction between chlorine gas and potassium bromide.
3. The electrolysis of water.

C Calculate the height of mountain if the temperature at its foot is 30°C and at its top is (-9°C) .**Question****4****A Put (✓) or (x) and correct the wrong ones :**

1. The number of known elements till now is 92 elements. ()
2. Each period starts with a weak metal. ()
3. The pilots prefer to fly in mesosphere. ()
4. Papyrus is considered as an extinct plant. ()

B Compare between troposphere and mesosphere layers.**C Explain the effect of extinction of species of living organisms on :**

1. Simple ecosystem.
2. Complicated ecosystem.

16**El-Menofia Governorate**

Shebin El-Kom Educational Administration

Answer the following questions :

Question**1****A Write the scientific term for each of the following :**

1. The elements which have the properties of both metal and nonmetal.
2. The ability of the atom to attract the electrons of the chemical bond to itself.
3. A molecule is formed from combining an atom of element with molecule of the same element.
4. They are traces and remains of old living organisms that are preserved in sedimentary rocks.
5. Weight of air column of an atmospheric height on unit area.
6. They are safe areas established to protect endangered species in their homeland.

B Locate the position of the following in the modern periodic table :

(Period, group and its block)

1. ${}_2\text{X}$
2. ${}_9\text{Y}$

C Answer the following :

1. If the temperature at the sea level is 30°C , Calculate the temperature at a height of 500 m.
2. Write the balance chemical equation which express :
 - (a) Reaction of bromine with potassium iodide.
 - (b) Electrolysis of water.

PART

3

Question

2

A Complete the following sentences :

1. and are from greenhouse gases.
2. Mendeleev arranged the elements ascendingly according to their, while Moseley arranged the elements ascendingly according to their
3. Archaeopteryx represents the link between and
4. The ultraviolet radiations have a effect, while the infrared radiations have a effect.
5. The type of bond in the water molecule is, while the bond between water molecules is

B Give reasons for :

1. The high boiling point of water.
2. Stratosphere layer is important for human's life.
3. Dodo bird was an easy target for hunters.
4. Element in the same group have similar chemical properties.

C Mention one example of :

1. Basic oxide.
2. A petrified fossil.
3. Halogen in liquid state.

Question

3

A Choose the odd word out, then write the scientific term for the rest words :

1. Nitrogen oxide / Water vapour / Freon / Halon.
2. Ibis bird / Dodo bird / Panda bear / Bald eagle.
3. Floods / Forests fire / Drought waves / Ozone hole.

B Mention the importance of :

1. Barometer.
2. Nummulite fossils.
3. Cobalt 60.
4. Van-Allen belt.

C What happens when ... ?

1. There is no ionosphere layer at the end of thermosphere.
2. Decreasing water temperature to less than 4°C.
3. Increasing atomic number in period three (concerning the metallic and non-metallic property).

D What is meant by ... ?

1. Global warming phenomenon.
2. Polar compound.
3. Fossil record.
4. Chemical Activity Series.

Question 4

A Choose the correct answer :

- From microfossils
a. ferns. b. foraminifera. c. radiolaria. d. (b) and (c).
- Increasing the concentration of in drinking water cause blindness.
a. lead b. arsenic c. mercury d. chlorine
- The temperature at the top of mesosphere layer reaches
a. 100°C b. -60°C c. -90°C d. 1200°C
- Ozone layer allows 100% of ultraviolet rays to penetrate.
a. near b. medium c. far d. (a , b)
- Complete body fossils of insects found preserved in
a. ammonites. b. igneous rocks. c. snow. d. amber.
- Atmospheric pressure at tropopause equal mb.
a. 100 b. 1000 c. 0.01 d. 0.001

B Put (✓) or (✗) and correct the wrong ones :

- Overuse of methyl bromide as insecticide causes increasing of erosion of ozone layer. ()
- Hydrogen evolves at positive pole in Hofmann's voltameter. ()
- Burning carbon produces basic oxide. ()
- Coral fossils indicate that their environment was clear warm shallow seas. ()

C Answer the following :

- Compare between fluorine and cesium.
(Concerning the atomic size and the kind of the formed ion)
- What are the reasons of the extinction in recent ages ? (Write two reason only)

17 Ismailia Governorate

Science Inspectorate

Answer the following questions :

Question 1

A Complete the following sentences with suitable words :

- The suitable medium to form a mammoth fossil is
- Mendeleev arranged the elements in an ascending order according to their, while Mosely arranged them ascendingly according to
- Fluorine and chlorine are found in state.
- is the first protectorate established in Egypt.

5. From the pollutants of ozone layer are compounds that are used in air conditioner sets.
6. Increasing the concentration of mercury in drinking water causes
7. The highest temperature layer in the atmosphere is the, while the layer is the most thin one.
8. Metal oxides are oxides, while nonmetal oxides are oxides.

B Write the number which indicates each of the following :

1. The number of blocks in the modern periodic table.
2. The number of oxygen atoms in ozone molecule.
3. The normal atmospheric pressure at the sea level (in mb).

Question

2

A Give reasons for :

1. Ozone layer is formed in stratosphere.
2. Petrified woods are considered as fossils although they look like rocks.
3. The atomic size of the elements of the same group increases by increasing their atomic number.
4. The simple ecosystem is affected strongly by the absence of one of its species.

B Write the scientific term :

1. The continuous increase in temperature of the Earth's near-surface air.
2. A series in which metals are arranged in a descending order according to the chemical activity.
3. The region between stratosphere and mesosphere at which temperature remains constant.
4. The radioactive element used in food preservation.

C Complete the following equations :

1. $2\text{Na} + 2\text{HOH} \longrightarrow \dots + \text{H}_2$
2. $\text{Br}_2 + 2\text{KI} \longrightarrow \dots + \text{I}_2$

Question

3

A Choose the correct answer for the following :

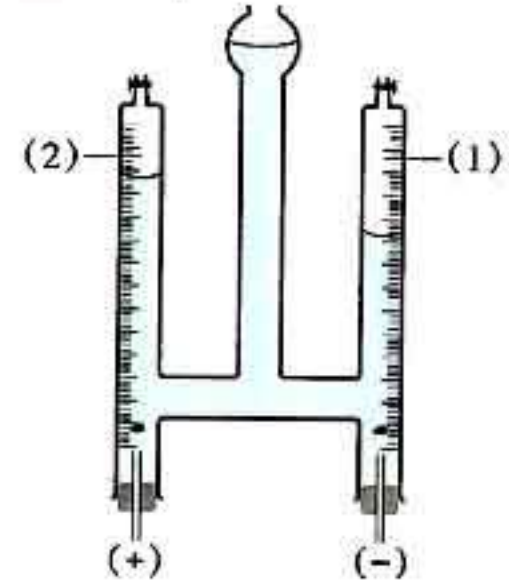
1. All the following metals react with water except
 a. K b. Cu c. Na d. Mg
2. Ozone layer doesn't allow the passage of ultraviolet rays.
 a. near b. medium c. far d. no correct answer
3. There are bonds between water molecules.
 a. hydrogen b. covalent c. ionic d. all the previous

Final Examinations

4. Ionosphere is surrounded by belts.
 a. electric b. magnetic c. thermal d. no correct answer
5. Fossils are found in rocks.
 a. igneous b. sedimentary c. metamorphic d. all the previous
6. All the following gases are greenhouse gases except
 a. CO_2 b. O_2 c. N_2O d. CH_4

B From the opposite figure, answer the following questions :

- This apparatus is called
- Label the figure.
- Find the volume of gas (1) if the volume of gas (2) is 10 cm^3



C Locate the position of each of the following in the modern periodic table :

- $_{12}\text{Mg}$
- $_{19}\text{K}$

Question 4

A Put (✓) in front of right statement and (✗) in front of wrong one :

- Establishing gene banks is a way to protect living organisms from extinction. ()
- Chemical activity of group 1 A elements increases as atomic size increases. ()
- Water molecule is a non-polar compound. ()
- Ferns fossils indicate that the environment where they lived was a sea floor. ()
- Methyl bromide gas is used as insecticide. ()
- Density of ice is more than that of water. ()
- Stratosphere is the coldest layer in the atmosphere. ()

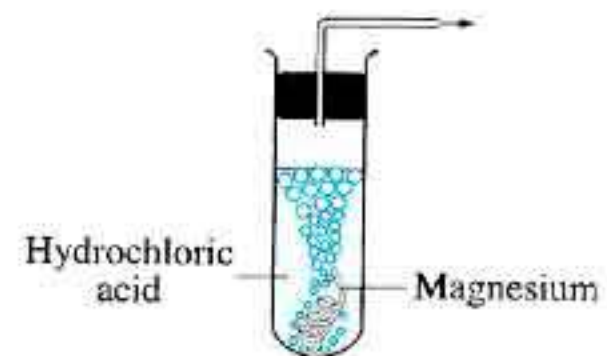
B Mention one example of the following :

- Old extinct animal.
- Endangered plant.
- Alkali metal element.

C If the temperature at the base of a mountain is 40°C , find the temperature at its top if its height is 2 Km.

D Examine the figure, then answer the questions :

- Write the chemical equation represents the reaction.
- What the name of the produced gas ?



Answer the following questions :

Question

1

A Complete the following phrases :

1. The type of bond in the water molecule is, while the bond between water molecules is

2. $\text{Cl}_2 + 2 \text{KBr} \longrightarrow \dots + \dots$

3. Fossils are used in exploration and determining the age of

4. Carbon dioxide gas is oxide, while magnesium oxide is oxide.

B Calculate the height of a mountain given that the temperature at its base = 40°C and at its top = -12°C .

C Give reasons for :

1. Water and ammonia are polar compounds.
2. Cobalt 60 is used in the food preservation.
3. Ionosphere layer is important for radio stations.

Question

2

A Write the scientific term for each of the following statements :

1. The traces and remains of the old living organisms which are preserved in sedimentary rocks.
2. The elements that have the properties of metals and nonmetals.
3. They are two belts surround ionosphere and help in scattering the harmful cosmic radiations.
4. Safe places that are specified to protect the endangered species in their natural environment.

B Locate the position of each element in the modern periodic table :

1. $(_{20}\text{Ca})$
2. Sulphur $(_{16}\text{S})$
3. $(_2\text{He})$

C Compare between group (1A) and group (7A).

(according to : Name - valency - kind of formed ions)

Question

3

A Choose from column (B) what suits column (A) :

(A)	(B)
1. Altimeter	a. the layer that has all weather phenomena.
2. Thermosphere	b. a suitable layer for aeroplanes flying.
3. Troposphere	c. a device used to measure the altitude of planes.
4. Stratosphere	d. the hottest layer in the atmospheric envelope.

B What happens when ... ?

1. Drinking water polluted with mercury.
2. Increasing the ratio of greenhouse gases in the atmosphere.
3. Adding the violet litmus solution to a jar has a piece of burning coal.
(write the symbolic balanced equation).

C Put (✓) in front of the correct statement and (✗) in front the incorrect one, then correct the wrong ones :

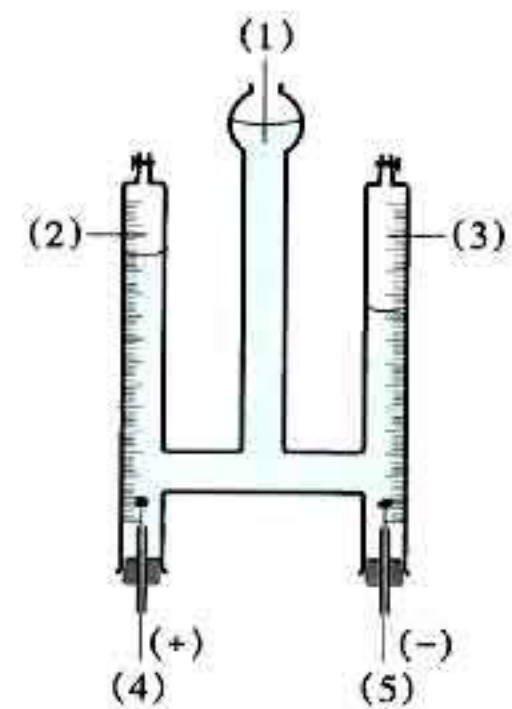
1. Panda bear is an example of extinct species. ()
2. The main energy levels had discovered by Bohr. ()
3. Ultraviolet radiation has a thermal effect. ()
4. The mold is a copy of external shape of the shell. ()

Question 4**A Choose the correct answer for the following :**

1. is an example of complete body fossils.
a. Mammoth b. Ferns c. Coral d. Foraminifera
2. react very slowly with cold water.
a. K and Na b. Ca and Mg c. Zn and Fe d. Cu and Ag
3. is an example of endangered living organisms.
a. Mammoth b. Dodo c. Dinosaur d. Bald eagle
4. The snow crystal has shape.
a. octagonal b. hexagonal c. pentagonal d. quadrilateral

B Look at the opposite figure, then answer :

1. Mention the name of the apparatus.
2. Label the figure.
3. Calculate the volume of the gas that evolves at the positive pole if the volume of the gas at the negative pole is 20 cm³.

**C What is the importance of the following ... ?**

1. Liquefied nitrogen.
2. Nummulite fossil.
3. Silicon.
4. Aneroid.

Answer the following questions :

Question

1

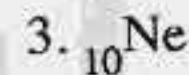
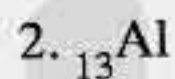
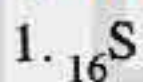
A Complete the following sentences :

1. Each period in the modern periodic table starts with and ends with
2. There are bonds between water molecules, while the bonds between atoms in water molecules are bonds.
3. Archaeopteryx represents the link between and
4. Ionosphere is surrounded by two magnetic belts known as belts that play an important role in
5. Alkali metals are located in group but halogens are located in group in the modern periodic table.

B Mention the importance of each of the following :

1. Ozone layer.
2. Altimeter.
3. Liquefied nitrogen.

**C Locate the position of the following elements in the modern periodic table :
(With drawing)**



Question

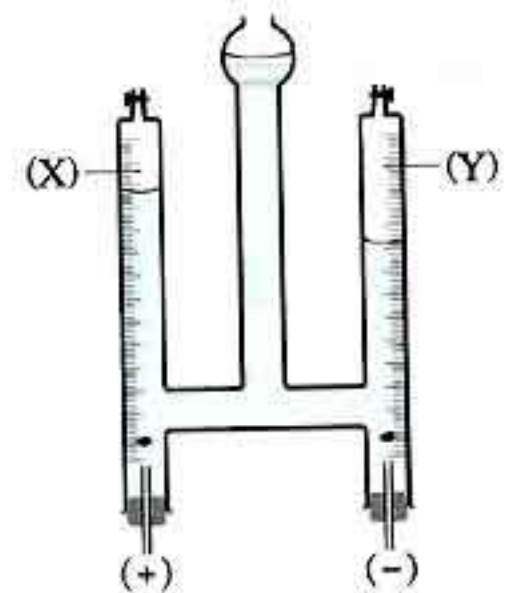
2

A Write the scientific term for the following :

1. The ability of atom in covalent molecule to attract the bond electrons to it.
2. Continuous increase of the average temperature of the air near the surface of the Earth.
3. The death of all members of certain species of living organisms.
4. A type of ultraviolet radiations that is absorbed mostly (95%) in the ozone layer.
5. Safe places established to protect endangered species in their natural environment.
6. A block in the periodic table that contains groups from (3A) to (7A).

B From the opposite figure, answer the following :

1. What's the name of this apparatus ?
2. Letter (X) on the figure represents
3. Letter (Y) on the figure represents
4. Write the symbolic balanced chemical equation.



- C** Calculate the temperature at the top of a mountain if its height is 4 km and the temperature at its foot is 30°C.

Question 3

- A** Choose the correct answer :

- The scientist who discovered the main energy levels is
a. Moseley. b. Bohr. c. Hofmann. d. Mendeleev.
- is considered the midway between horse and zebra.
a. Quagga b. Bald eagle c. Panda bear d. Rhinoceros
- The coldest atmospheric layer is
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
- Complete body fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. ambergris.
- react very slowly with cold water.
a. K and Na b. Cu and Ag c. Zn and Fe d. Ca and Mg

- B** Write the symbolic balanced chemical equations which express the following reactions :

- Dissolving of magnesium oxide in water.
- Carbon dioxide with water.
- Bromine with potassium iodide.

- C** Mention the harms of :

- Storing water in plastic bottles.
- Far ultraviolet rays on human.
- Drinking water contains high concentration of mercury.

Question 4

- A** Give reasons for :

- The lower part of stratosphere is suitable for flying aeroplanes.
- Rhinoceros is from the endangered species.
- Ionosphere layer is important for wireless communications.
- Sodium fires do not put off with water.

- B** What is meant by ... ?

- Dobson.
- Chemical Activity Series.
- Petrification.

- C** Correct the underlined words :

- Infrared radiations has a chemical effect.
- Panda bear is considered from extinct species.
- Meteors burn in thermosphere layer.

Answer the following questions :

Question

1

A Complete the following statements :

1. The hottest atmospheric layer is and the coldest atmospheric layer is
2. Ultraviolet radiation has a effect, and the infrared radiation has a effect.
3. Archaeopteryx represents the link between and
4. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
5. $\text{Br}_2 + 2 \text{KI} \longrightarrow \dots + \dots$

B Explain the behavior of these element with water :

1. Sodium.
2. Silver.

C Mention one example for :

1. Microfossils.
2. Extinct species.

Question

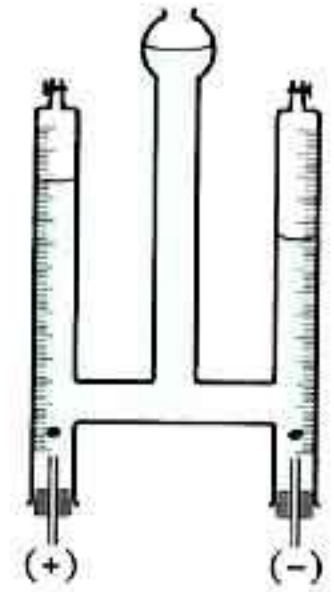
2

A Choose the correct answer :

1. Complete fossils of mammoth are found preserved in
a. ammonites. b. amber. c. snow.
2. The is/are used in extinguishing fires.
a. methyl bromide gas b. halons c. nitrogen oxide
3. All the following elements from metalloids except for
a. silicon. b. bromine. c. boron.
4. The elements of group (1A) are known as
a. alkali metals. b. halogens. c. alkaline Earth metals.
5. Metal oxides are oxides.
a. acidic b. basic c. amphoteric
6. All of the following are greenhouse gasses except
a. CH_4 b. N_2O c. O_2
7. The scientist discovered the main energy levels of the atom.
a. Bohr b. Mendeleev c. Newton
8. The first established natural protectorate in Egypt is
a. petrified forest. b. Wadi Hetan. c. Ras Mohamed.

B Study the opposite figure , then answer the following questions :

1. Mention the name of this apparatus.
2. Write the chemical equation that shows the chemical reaction.
3. What is the volume of gas which burns with a pop sound when you approach a glowing splint to it if the volume of the other gas is 6 cm^3 ?

**C Give reasons for :**

1. Elements of the same group have similar properties.
2. Liquefied nitrogen is used in the preservation of the cornea of the eye
3. The lower part of stratosphere is suitable for flying aeroplanes.

Question**3****A Write the scientific term :**

1. The descending arrangement of elements according to their chemical activity.
2. Traces and remains of living organisms that are preserved in sedimentary rocks.
3. Decrease in the thickness of the ozone layer.
4. The two magnetic belts that help in dispersing the harmful cosmic radiation.
5. The ability of the atom to attract the electrons of the chemical bond towards itself.
6. The radioactive element which is used in food preservation.

B Locate the position of the following elements in the modern periodic table :

1. ($_{19}\text{K}$)
2. ($_{9}\text{F}$)
3. ($_{5}\text{B}$)
4. ($_{10}\text{Ne}$)

C Compare between :

Simple ecosystem and complicated ecosystem.
(according to : Number of members - example)

Question**4****A Put (✓) or (x) in front of each of the following :**

1. The air moves vertically in the troposphere layer. ()
2. Ice crystals have pentagonal shapes. ()
3. In the period, as the atomic number increases the metallic property increases. ()
4. The fossil record indicates the age of the sedimentary rocks. ()
5. The ozone degree is measured by unit called Dobson. ()

B Calculate the height of a mountain if the temperature at its base is (30°C) and the temperature at its top is (-9°C).**C Write the symbolic balanced chemical equations which express the reaction of :**

1. Carbon dioxide with water.
2. Magnesium with dil. hydrochloric acid.

Answer the following questions :

Question

1

A Complete the following statements :

1. The atomic size is measured by , but the atmospheric pressure is measured by
2. Eating fish which contains high ratios of lead causes , but drinking water which contains high ratios of mercury leads to
3. Ultraviolet radiation has a effect, but the infrared radiation has a effect.
4. From the examples of complete body fossils are and

B What happens in each of the following cases ... ?

1. Decreasing water temperature to 2° C.
2. Increasing the ratio of nitrogen oxides in the atmosphere.
3. Silica matter replaces wood material part by part of an old tree.

C Calculate the height of mountain if the temperature at its bottom is (30°C) and at its top (-9°C).

Question

2

A Write the scientific term for each of the following :

1. It is a series in which metals are arranged in a descending order according to their chemical activity.
2. A region separates between stratosphere and mesosphere where temperature is rather constant.
3. Fossils of the organisms that lived a short period of time in the past and become extinct.

B Mention one use or importance for each of the following :

1. Liquified nitrogen.
2. Altimeter.
3. Halons.

C From the opposite table which represents the properties of four elements, mention the symbol which represents an element from :

1. Alkali metal , then indicates its group in periodic table.
2. Halogen , then indicates its group in periodic table.
3. A metal its oxide dissolves in water to form magnesium hydroxide.

(Show the balanced chemical equation)

Element symbol	Behaviour with water	Physical state	Density gm/cm ³
A	dissolve	gas	0.003
B	react	solid	3.59
C	react instantly	solid	0.86
D	react very slowly with cold water	solid	

Question 3

A Choose the correct answer :

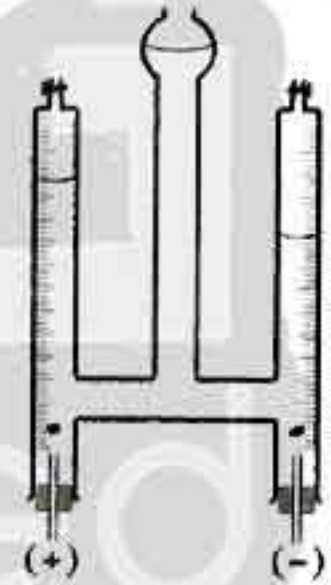
1. Degree of ozone under STP condition is Dobson.
a. 100 b. 200 c. 300 d. 400
2. Fossils are found in rocks.
a. metamorphic b. sedimentary c. igneous d. volcanic
3. Inert gases are located in the block.
a. s b. p c. d d. f
4. protectorate is the first natural protectorate in Egypt.
a. Saint Catherine b. Ras Mohamed c. Wadi Hetan d. Petrified forest

B Give reasons for :

1. Ionosphere is important for wireless communications.
2. High boiling and freezing point of water.
3. Removing trees of tropical forests is one of the most important factors of extinction.

C From the opposite figure which illustrates Hofmann's voltameter used in electrolysis of water :

1. Write the chemical equation which illustrates the chemical reaction ?
2. What is the volume of gas which burns with a pop sound when you approach a glowing splint to it if the volume of the other gas is 5 cm^3 ?
3. Write the name of elements, which are collected at the cathode and anode.



Question 4

A Correct the underlined words in the following statements :

1. Mammoth represents a link between reptiles and birds.
2. Panda bear is considered from extinct species.
3. Meteors burn in thermosphere layer.
4. Methane molecule is considered as a polar molecule.

B Compare between :

1. Mendeleev's periodic table and Moseley's periodic table.
(In terms of scientific principle of arranging elements)
2. Simple ecosystem and Complicated ecosystem.
(In terms of : No. of members - example for each)

C Mention one example for :

1. A gas from greenhouse gases.
2. The most active metal.
3. An element doesn't react with water.
4. Type of fossils is considered as a guide for existence of petroleum well.

22 El-Minia Governorate

Minia Kawmia Language School

Answer the following questions :

Question

1

A Choose the correct answer :

1. is the region between stratosphere and mesosphere.
a. Thermopause b. Mesopause c. Stratopause d. Tropopause
2. Increasing the concentration of in drinking water causes blindness.
a. mercury b. lead c. arsenic d. chlorine
3. is an example of microfossils.
a. Mammoth b. Ferns c. Archaeopteryx d. Foraminifera
4. The scientist had discovered the main energy levels.
a. Moseley b. Bohr c. Hofmann d. Mendeleev
5. Ozone degree is measured in a unit called
a. km. b. mm² c. nm. d. Dobson.

B Mention one use of each of the following :

1. Liquified nitrogen.
2. Hofmann's voltameter.
3. Methyl bromide gas.

C Mention one example of :

1. Endangered plant
2. Simple ecosystem.

Question

2

A Write the scientific term for each of the following sentences :

1. Fossils formed by the replacement of wood part by part keeping its shape without change.
2. The continuous increase in the average temperature of air near the surface of the Earth.
3. A bond that exists between water molecules.
4. The curved lines that join the points of equal pressure in atmospheric pressure maps.

B Give reasons for :

1. Ionosphere is important for radio stations.
2. Elements of group (7 A) are known as halogens.
3. Ammonia (NH_3) is considered as a polar compound.
4. Formation of ozone layer in the stratosphere layer.

Question 3**A Choose from column (B) what suits in column (A) :**

(A)	(B)
1. Corals	a. is a link between reptiles and birds.
2. Ferns	b. indicate the evolution from simple to complicated life.
3. Nummulites	c. are fossils that indicate that the environment, where they lived was a hot and rainy tropical.
4. Archaeopteryx	d. are fossils that indicate that the environment, where they lived was clear warm shallow seas.
	e. are fossils that indicate this area was a sea floor more than 35 million years ago.

B Write the balanced chemical equations that illustrate the following reactions :

1. Reaction of chlorine gas with potassium bromide solution.
2. Magnesium with dilute hydrochloric acid.
3. Carbon dioxide with water.

C Calculate the height of a mountain if the temperature at its base is (30°C) and at its top is (-9°C).**Question 4****A Correct the underlined words :**

1. Reproduction is the continuous decrease without compensation in the number of a certain species of living organisms until all members of species die out.
2. Magnesium oxide is an acidic oxide.
3. Amber is an example of mold.
4. The atomic size decreases in the same group by increasing the atomic number.

B Compare between :

The groups and periods (Two points enough).

C What happens when ... ?

1. The pollution of water with animal and human wastes.
2. Overuse of freon.
3. Reaction of sodium with water.

Answer the following questions :

Question

1

A Complete the following statements :

1. Most of weather features occur in layer, where satellites orbit in layer.
2. Archaeopteryx is the link between and
3. The scientist had discover the main energy levels.
4. Sodium oxide is an example of, while sulphur oxide is an
5. Water has effect on litmus paper.

B A mountain its height 6000 meter, the temperature on its foot is 30 C. Calculate the temperature at its top

C Compare between :

1. Simple ecosystem and complicated ecosystem (according to : number of members - examples).
2. Elements of group 1 A and elements of group 7 A (according to : name - valency).

Question

2

A Write the scientific term :

1. Fossils exist in the rocks of different areas that indicates the extinction and evolution of organisms.
2. A type of ultraviolet radiation that is absorbed completely by ozone layer.
3. A water pollutant that causes death of brain cells.
4. A metalloid is used in the manufacturing of electronic devices.
5. The ability of atom in a covalent molecule to attract electrons towards itself .
6. The death of all members of species of living organisms.

B Explain the behaviour of the following elements with water :

- | | | | |
|----------|------------|---------------|---------------|
| 1. Iron. | 2. Silver. | 3. Potassium. | 4. Magnesium. |
|----------|------------|---------------|---------------|

C What is the importance of ... ?

- | | | | |
|---------------|-------------------|---------------|-------------------|
| 1. Altimeter. | 2. Index fossils. | 3. Cobalt 60. | 4. Liquid sodium. |
|---------------|-------------------|---------------|-------------------|

Question 3**A Give reasons for :**

1. Establishing the natural protectorates .
2. Water is a polar compound.
3. The high boiling point of water.
4. Stopping manufacturing of ultrasound concorde aeroplanes .
5. Mesosphere layer is highly rarefied layer.
6. Scientist thought about classification of elements.

B Write the symbolic chemical equation that indicates the following reactions :

1. Reaction of chlorine gas with potassium bromide.
2. Magnesium with dilute hydrochloric acid.
3. Carbon dioxide with water.

C Mention one example for :

1. Endangered bird.
2. Petrified fossils.
3. Bright phenomenon at the Earth poles.
4. Most metallic element in group 1A.

Question 4**A Put true or false in front of the following statements :**

1. Methyl bromide used in extinguishing fires. ()
2. Infrared radiation has a chemical effect. ()
3. Ionosphere is the lowest layer in temperature. ()
4. Ozone hole increases in January each year. ()
5. Water density increases by freezing. ()
6. Mendeleev arranged elements according to their atomic number. ()
7. Its preferable to store tap water in empty plastic bottles. ()

B Locate the position of the following elements in the periodic table :

1. ${}^1\text{H}_1$
2. ${}_{2}\text{Ne}^{40}$
3. ${}_{20}\text{Ca}^{40}$
4. ${}_{7}\text{N}^{14}$
5. ${}_{3}\text{Li}^7$

C Calculate the volume of gas which burns with a pop sound on approaching a glowing splint to it in the cathode of the Hofmann's voltammeter, if the volume of other gas is 6 cm³

Answer the following questions :

Question

1

A Complete the following statements :

1. From the extinct species in the recent times are and
2. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
3. and are examples of polar compounds
4. Chlorine can replace and in their salt solutions.
5. is an instrument used by pilots in aeroplanes to measure their elevation above sea level.

B Give reasons for :

1. Ionosphere is important for radio stations.
2. Naming the petrified forest in Qattamiya with wood mountain.

Question

2

A Choose the correct answer :

1. The largest atom of elements in size is atom.
a. cesium (Cs) b. fluorine (F) c. bromine (B)
2. The gas evolved on reacting alkali metals with water is
a. oxygen. b. hydrogen. c. nitrogen.
3. Elements of p-block are arranged in groups.
a. 2 b. 6 c. 10
4. Luminous meteors are formed in layer.
a. ionosphere b. stratosphere c. mesosphere
5. Complete body fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks.
6. is the region between stratosphere and mesosphere.
a. Stratopause b. Mesopause c. Tropopause

B Write the scientific term of each of the following :

1. Elements, which have the properties of metals and nonmetals.
2. The death of all members of a species of a living organisms.
3. The radioactive element, which is used in the food preservation.
4. Fossils of organisms that had lived for a short period of time in the past and had a wide geographic distribution, then become extinct.

C What is meant by ... ?

1. Atmospheric pressure.

2. Chemical Activity Series.

Question 3

A Put (✓) or (x) with correcting the false ones :

1. The first real table for classifying elements is the modern periodic table. ()
2. Each period starts with a strong metal. ()
3. Wind moves from regions of low atmospheric pressure to that of high atmospheric pressure. ()
4. Archaeopteryx is a link between reptiles and birds. ()
5. A hydrogen bond is weaker than a covalent bond. ()

B What happens when ... ?

1. Storing water in plastic bottles.
2. Oxygen atom combines with oxygen molecule.
3. An organism is buried fast after death in snow.

C Choose the odd word out :

1. Fluorine - Iodine - Chlorine - Argon.
2. CO_2 - MgO - Na_2O - CaO .
3. Rhinoceros - Panda bear - Mammoth - Bald eagle.

Question 4

A Mention an example of each of the following :

1. A fossil of solid mold.
2. Petrified fossils.
3. A natural protectorate.
4. Greenhouse gases.

B Problem Find temperature at the top of a mountain if it's height is 4 km and the temperature at its foot is 24°C .

C Locate the position of the following elements in the modern periodic table :

1. $_{11}\text{Na}$
2. $_1\text{H}$
3. $_{10}\text{Ne}$

25 New Valley Governorate

El-Dakhlah Educational Zone

Answer the following questions :

Question 1

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. Ozone layer is formed in layer, while meteors is formed in layer.

PART

3

3. There is bond among the atoms that form water molecule, while there is bond among water molecules.
4. is from extinct birds, while is from endangered birds.
5. $\text{Br}_2 + 2 \text{KCl} \longrightarrow \dots\dots\dots$

B Mention two conditions of fossils preservation (formation) ?

C If the temperature at a mountain foot is 35°C . Calculate the temperature at its top if its height is 3 km.

Question

2

A Choose the correct answer :

- The scientist had discovered the main energy levels
a. Moseley b. Rutherford c. Bohr
- The complete body fossils are found in
a. silica. b. sedimentary rocks. c. snow.
- gas evolved when sodium reacts with water.
a. O_2 b. N_2 c. H_2
- is from extinct mammals.
a. Dodo b. Rhinoceros c. Quagga
- Increasing the concentration of in water causes the death of brain cells.
a. mercury b. lead c. arsenic

B Mention one use (importance) for each of the following :

- Van-Allen belts.
- Isobar.
- Altimeter in aeroplanes.

C Locate the position of the following elements in the modern periodic table :

- $_{18}\text{Ar}$
- $_{11}\text{Na}$

D What are the results based on ... ?

- Mixing human and animals wastes with water.
- Increasing the concentration of greenhouse gases in air.

E What is the difference between mold and cast ?

Question

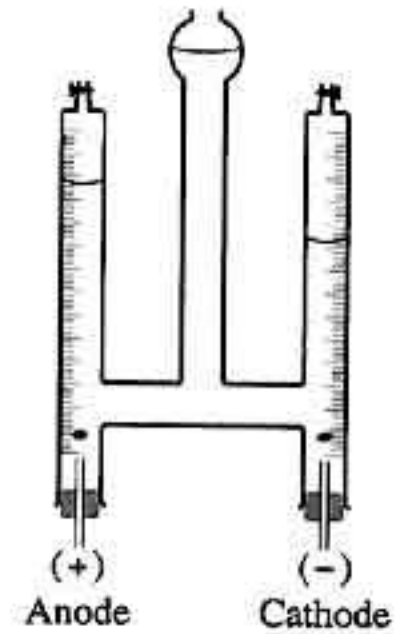
3

A Write the scientific term :

- Elements, which have the properties of metals and nonmetals.
- Remains of old organisms that lived in the past for a short period, then became extinct.
- A charged layer reflects radio waves.
- Natural safe areas that are established to protect the endangered species.
- A descending arrangement of elements according to their chemical activity.

B The opposite figure represents Hofmann's voltameter, which is used in the water electrolysis :

1. Write the chemical equation, which expresses the reaction.
2. If the volume of the gas, which burns with a pop sound = 20 cm^3 . What is the volume of the other gas?
3. What is the name of the gas, which collected at each of the following ?
 - a. Anode.
 - b. Cathode.



C Exclude the unsuitable word and mention what the rest has in common :

1. Li / Na / Cl / K
2. Cl_2 / O_2 / I_2 / Br_2

D Compare in a table between simple ecosystem and complicated ecosystem.

Question

4

A Give reasons for :

1. Using liquefied nitrogen in the preservation of the eye cornea.
2. Stopping manufacturing of concorde aeroplanes.
3. Water and ammonia are from polar compound.
4. We should not keep the tap water in plastic bottles.

B Mention the measuring unit of each of the following :

1. The wavelength of the ultraviolet radiation.
2. Atmospheric pressure.
3. The degree of ozone.

C Illustrate with formula and equation only, the role of ultraviolet radiation in the formation of ozone gas.

D Choose from column (B) what suits in column (A) :

(A)	(B)
1. Atomic size	a. decreases by increasing the height (elevation).
2. Non-metallic property	b. increases as we go down in group 1 A.
3. Atmospheric pressure	c. decreases by decreasing the temperature.
4. Metallic property	d. decreases as we go to right side in period.
5. Water density	e. decreases as we go down in group 7 A.

Answer the following questions :

Question

1

A Write the scientific term :

1. Continuous decrease in numbers of species members without compensation until all die out.
2. The descending arrangement of elements according to their chemical activities.
3. The erosion of ozone layer above the south pole.
4. The traces and remains of the old living organisms, which are preserved in the sedimentary rocks.
5. The ability of the atom in the covalent molecule to attract the chemical bond electrons to it.

B Locate the position of the following elements in the modern periodic table :

1. $_{18}\text{Ar}$

2. $_{20}\text{Ca}$

C Write one example of the following :

- | | |
|--------------------------------|--------------------|
| 1. Fossil of a complete body. | 2. Polar compound. |
| 3. Animal extinct in old time. | 4. Mold fossil. |
| 5. A simple ecosystem. | |

Question

2

A Choose the odd word out, then link between the rest words :

1. Dodo bird - Ibis bird - Bald eagle - Panda.
2. Halons - Methyl bromide - Chlorofluorocarbon compounds - Carbon dioxide.
3. $_{3}\text{Li}$ - $_{11}\text{Na}$ - $_{19}\text{K}$ - $_{12}\text{Mg}$
4. Studing life evolution - Petrified forests - Petroleum exploration - Age determination of rocks.
5. $_{6}\text{C}$ - $_{9}\text{F}$ - $_{17}\text{Cl}$ - $_{35}\text{Br}$

B Give reasons for :

1. The formation of aurora phenomenon.
2. The atomic size of the same group increases by increasing their atomic number.

C If the temperature at the base of mountain = 13°C , How much is the temperature at its top if the mountain height is 2 km ?

Question 3

A Correct the underlined :

1. The first mammoth fossil was discovered preserved in an amber.
2. Sodium is kept under the water surface.
3. Group 7 A called alkali metals.
4. Wadi El-Raiyan protectorate is the first established protectorate in South Sinai.
5. Foraminifera fossil links between reptiles and birds.
6. Meteors are formed in troposphere due to friction with air molecules.
7. Iodine is from liquid halogens.
8. Transition elements are found below the modern periodic table.

B Match to (A) what is suitable from (B) :

(A)	(B)
1. Liquefied nitrogen	a. used in the food preservation.
2. Cobalt 60	b. used to determine today's weather.
3. Altimeter	c. used to measure the altitude of planes.
4. Aneroid	d. used determine the age of rocks.
	e. used in the preservation of the cornea.

C If the volume of gas produced from the electrolysis of water at cathode = 8 cm^3 , Calculate the volume of gas produced at anode and write its name.

Question 4

A Choose the correct answer :

1. The pure water boils at °C.
a. 200 b. 40 c. 100 d. 70
2. The modern periodic table consists of periods.
a. 7 b. 18 c. 17 d. 71
3. Each period in the modern periodic table starts with element.
a. nonmetallic b. noble gas c. semi-metallic d. metal
4. The fossil indicate that the environment where they lived was clear, warm, and shallow seas.
a. ferns b. nummulites c. fish d. coral
5. Normal atmospheric pressure = millibar.
a. 1013.25 b. 76 c. 1.013 d. 760

6. The crystals of ice take shape.

- a. quintet b. quadrilateral c. octogenarian d. hexagonal

7. The solution produced from dissolving the non-metal oxides in water turns the violet litmus solution into

- a. red. b. blue. c. not changed. d. green.

8. Sodium react with water and gas produced.

- a. H_2 b. CO_2 c. N_2 d. O_2

B Compare between the air movement in troposphere and the lower part of stratosphere.

C What happens when ... ?

1. Water polluted with human and animal wastes.
2. Oxygen molecule absorbed ultraviolet rays.
3. Increasing the ratio of carbon dioxide gas in air.
4. Added dilute hydrochloric acid to magnesium ribbon.

ذاكر اولي
RaNia SaYed

Answer the following questions :

Question

1

A Complete the following statements :

1. Elements in group (1A) are called alkali metals as their elements react with forming solutions.
2. The highest temperature layer in the atmosphere is and the lowest temperature one is
3. From the examples of complete body fossils are and
4. By increasing the atomic number, the value of metallic property in the groups of the periodic table.
5. Elements of group (B) are called elements and they appear from period
6. Fluorine and chlorine exist in state, while iodine exists in state.
7. There are bonds between water molecules.

B Find the temperature at a point of height 2000 metres above sea level if the temperature at sea level is 23°C.

C Give reasons for :

1. The atomic size decreases in periods by increasing the atomic number.
2. Liquefied nitrogen is used in preservation of cornea of the eye.
3. Don't store tap water in empty plastic bottles of mineral water.
4. Pilots prefer to fly their planes at the lower part of stratosphere layer.

Question

2

A Write the scientific term :

1. Continuous decrease in the number of living organisms without compensation until all die out.
2. A liquid metal acts as a heat conductor in nuclear reactors for generating electricity.
3. The traces and remains of old living organisms which are preserved in the sedimentary rocks.
4. The ability of the atom in a covalent molecule to attract electrons of the chemical bond towards itself.
5. The kind of bond which binds oxygen atom with hydrogen atom in water molecule.
6. The weight of air column of an atmospheric height on a unit area.
7. A phenomenon that occurs due to the increase in the percentage of CO₂ gas and leads to an increase in the planet Earth's temperature.

B What happens if ... ?

1. Dissolving magnesium oxide in water (write the equation).
2. Passing chlorine gas in potassium bromide solution.
3. Drinking water polluted with mercury.

C Locate the position of the following elements in the modern periodic table :

1. $^{20}_{10}\text{Ne}$
2. $^{40}_{20}\text{Ca}$
3. $^{32}_{16}\text{S}$
4. ^4_2He

Question**3****A Choose the correct answer :**

1. Meteors are formed in
a. mesosphere. b. ionosphere. c. exosphere. d. stratosphere.
2. All these are greenhouse gases except
a. CO_2 b. O_2 c. N_2O d. CH_4
3. From the endangered species is
a. dinosaur. b. bald eagle. c. dodo bird. d. quagga.
4. All of the following metals react with water except
a. K b. Cu c. Na d. Mg
5. Ozone degree is measured in a unit called
a. millibar. b. nanometre. c. dobson. d. picometre.

B Correct the underlined words :

1. Chlorine element has the smallest atomic size.
2. Chemical pollution of water causes many diseases as typhoid and hepatitis.
3. The thermometer is an instrument used to measure the atmospheric pressure.
4. Rutherford discovered the main energy levels.
5. Oil is a covalent compound dissolves in water.
6. Amphibian fossil is a link between reptiles and birds.

C Mention one use for each of the following elements :

1. Altimeter.
2. Cobalt 60
3. Van-Allen belts.

Question**4****A Put (✓) or (✗) and correct the wrong ones :**

1. Mammoth and dinosaur are old extincted animals. ()
2. Halogens are monovalent elements. ()
3. Solutions of metal oxides turn blue litmus papers into red. ()
4. Mendeleev arranged the elements in an ascending order according to their atomic numbers. ()

5. Infrared radiations have chemical effect. ()
6. The atomic size increases in the group by increasing the atomic number. ()
7. Tropical forest is considered as simple ecosystem. ()

B What is meant by ... ?

1. Polar compounds. 2. Aurora phenomenon. 3. Chemical activity series.

C Mention two ways to protect living organisms from extinction.

2 Cairo Governorate

Nozha Directorate of Education
Nozha Language Schools

Answer the following questions :

Question 1

A Complete the following statements :

1. Elements that locate in the middle of the periodic table are called and they start to appear from the period number
2. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly according to
3. From the negative effects of global warming are and
4. Ozone layer is found in layer, while meteors are burnt in layer.

B Give reasons for :

1. Water and ammonia are from polar compounds.
2. Water density decreases on freezing.
3. Cobalt 60 is used in food preservation.
4. Chlorine replaces bromine in potassium bromide solution.

C If the temperature at the sea level is 26°C , find the temperature at the top of a mountain its height is 4 km.

Question 2

A Choose the correct answer :

1. The volume of oxygen evolved during electrolysis of water is the volume of hydrogen.
a. equals b. half c. twice d. four times
2. Bilharzia is from the harms resulted from water pollution.
a. chemical b. thermal c. biological d. radiant
3. fossils indicate the environment where they lived was tropical, hot and rainy.
a. Ferns b. Nummulites c. Coral d. Dinosaurs

4. Three elements in the same period (A : non-metal , B: metal, C: metalloid), which of the following represents their correct arrangement in the period from left to right ?

a.

B	C	A
---	---	---

b.

A	B	C
---	---	---

c.

B	A	C
---	---	---

d.

C	A	B
---	---	---

B Compare between :

1. Simple ecosystem and complicated ecosystem. (According to definition - example).
2. Reasons of old extinction and recent extinction (2 points for each one).
3. Halogens and alkali metals (2 points for each one).

C Mention the name representing :

1. A greenhouse gas.
2. A solid halogen.
3. A mold fossil.
4. An endangered plant.

Question 3

A Put (✓) or (✗) and correct the wrong ones :

1. "p" block elements consists of 10 groups. ()
2. Halons are produced from supersonic planes. ()
3. Increasing the concentration of mercury in water causes blindness. ()
4. Some alkalis dissolve in water forming bases. ()
5. Amber is a complete body fossil. ()
6. Wadi El-Hetan protectorate is the first established protectorate in Egypt. ()

B Mention one importance for :

1. Van-Allen belts.
2. Liquefied nitrogen.
3. Altimeter.
4. Fossils.

C In front of you two elements from the periodic table :

(₁₂Mg / ₁₇Cl)

- a. Locate them in the periodic table and mention their block.
- b. Which one has the smallest size ? Why ?

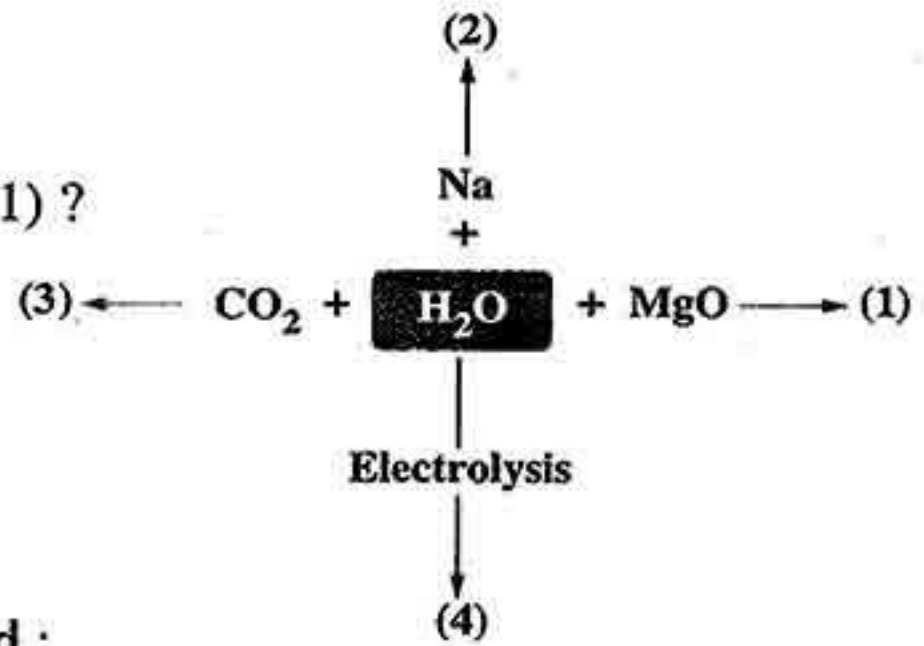
Question 4

A Write the scientific term :

1. Descending arrangement of metals according to their chemical activity.
2. Traces and remains of old living organisms preserved in sedimentary rocks.
3. Coloured bright curtains seen at the two poles.
4. Weight of air column of an atmospheric height on a unit area (1m^2).
5. A layer which plays an important role in wireless communications.

B In the opposite figure :

1. Write the products of reactions (1) , (2) , (3).
2. What is the type of solution resulted in reaction (1) ?
3. What is the effect of the product of reaction (3) on the litmus paper ? Why ?
4. In reaction (4), hydrogen gas evolves at , while oxygen gas evolves at



C Mention the name of the scientist who discovered :

1. Normal degree of ozone.
2. Protons inside nucleus.
3. Added zero group to the periodic table.
4. Main energy levels.

3

Cairo Governorate

Nasr City Educational Directorate

Answer the following questions :

Question

1

A Complete the following statements :

1. Elements of group (1A) are called, but elements of group (7A) are called
2. The hottest atmospheric layer is, but the coldest atmospheric layer in the atmospheric envelope is
3. The transition elements start to appear from the beginning of the period and symbolized by letter
4. The bond between hydrogen atom and oxygen atom in water molecule is bond, while bonds among water molecules are bonds.
5. Archaeopteryx represents a link between and
6. When the temperature of water becomes less than 4°C , its volume, while its density
7. are used in extinguishing fires and is used as coolant in cooling devices.
8. In the upper part of stratosphere, layer is found which absorbs rays emitted from the Sun.

B Mention an example for each of the following :

1. Halogen exists in a solid state.
2. The strongest metallic element.
3. Covalent compound cannot dissolve in water.
4. Trace fossil.

C The figure shows a section of the modern periodic table :

1. What is the atomic number of the element (Z).
2. What is the atomic number of the element (X).
3. Element (${}_{11}\text{L}$) is located in period and group

X	
${}_{11}\text{L}$	Z
M	
O	

Question 2

A Choose the correct answer :

1. Eating fish, which contain high concentration of causes the death of brain cells.
a. mercury b. arsenic c. lead d. iron
2. The electronic configuration of calcium ion (Ca^{++}) is similar to
a. ${}_{18}\text{Ar}$ b. ${}_7\text{N}$ c. ${}_{10}\text{Ne}$ d. ${}_2\text{He}$
3. When mud fills up the shell cavities and solidify, then shell decomposes, is produced.
a. a petrified wood b. a solid mold c. a cast d. no correct answer
4. The atmospheric envelope is inserted in the outer space in a region known as
a. exosphere. b. ionosphere. c. stratopause. d. mesopause.
5. Ionosphere layer is surrounded by two belts.
a. ionic b. electric c. heat d. magnetic

B What happens when ... ?

1. Storing water in plastic bottles of mineral water.
2. Meteors move at a very high velocity in mesosphere layer.
3. An atom of a nonmetallic element gains one electron or more during the chemical reaction.
4. The melting rate of polar ice increased.
5. Silica matter replaces wood material part by part of an old tree.

C Compare between : Basic oxides and acidic oxides.

D Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Liquid sodium	a. is used in preservation of food.
2. Liquefied nitrogen	b. is used in manufacture of electronic devices.
3. Cobalt 60	c. is used in nuclear reactors.
4. Silicon slides	d. is used in preservation of cornea of the eye.

Question 3

A Complete the following chemical equations :

1. $2\text{NaBr} + \text{Cl}_2 \longrightarrow \dots + \dots$
2. $\text{Mg} + 2\text{HCl} \xrightarrow{\text{dil.}} \dots + \dots$
3. $\dots + \dots \longrightarrow 2\text{KBr}$

B Give reason for each of the following :

1. Dodo bird was an easy target for hunters.
2. Pilots prefer to fly their planes in stratosphere.
3. Although water of oceans freezes at polar zones, the aquatic creatures are still alive.
4. Mammoth fossil is preserved as a complete body fossil.

C Calculate the temperature at the base of a mountain, if its height is 6 km and the temperature at its top is 10°C.**D Choose the odd word out, then write the scientific term of others :**

1. Sodium / Silver / Potassium / Calcium.
2. N_2 / N_2O / CO_2 / CH_4
3. Panda bear / Bald eagle / Dinosaur / Barbary sheep.
4. Hofmann's voltameter / Altimeter / Barometer / Aneroid.
5. Trilobite fossil / Ammonites fossil / Nummulites fossil / Ferns fossil

Question 4**A Correct the underlined words :**

1. Petrified wood is considered as rocks.
2. Each period in the periodic table starts with inert gas.
3. An element which is located in the 3rd period and group (2A), its atomic number is 8.
4. Mixing animals and human wastes with water causes chemical pollution.

B Write the scientific term :

1. Safe places that are specified to protect the endangered species in their homeland.
2. A phenomenon that appears as brightly coloured light curtains seen at both poles of the Earth.
3. The continuous increase in the average temperature of the air near the surface of the Earth.
4. The ability of the atom in a covalent molecule to attract the electrons of the chemical bond towards itself.
5. The solidified resinous matter, which was secreted by pine trees during old geologic ages.
6. The block that contains the series of lanthanides and actinides.

C Mention one importance for :

1. Altimeter.
2. Methyl bromide gas.

D What do the following numbers indicate ... ?

1. 300 dobson.
2. 104.5°

4

Cairo Governorate

El-Waily Educational Zone
St. Joseph Maronite Language Schools

Answer the following questions :

Question

1

A Write the scientific term :

1. An atmospheric layer at which the air moves vertically.
2. The ability of the atom in the covalent molecule to attract the chemical bond electron to it.
3. A phenomenon looks like colourful light curtains seen in the two poles.
4. The traces and remains of old living organisms which are preserved in sedimentary rocks.

B Write one use for each of the following :

1. Liquefied nitrogen.
2. Sodium in liquid state.

C Locate the position of the following elements in the modern periodic table :1. ${}_{19}\text{K}$ 2. ${}_{10}\text{Ne}$

Question

2

A Complete the following statements :

1. The atmospheric pressure at sea level equals mb.
2. The ultraviolet rays are three kinds which are , and
3. Sodium is kept under the surface of so, as not to react with

B Write one difference between :

1. Metals and nonmetals.
2. Mesosphere layer and thermosphere layer.
3. Coral fossils and ferns fossils.

C Write the equation of electrolysis of water.

Question

3

A Give reasons for :

1. Cesium is considered from the strongest metallic element.
2. The ozone layer acts as a protective shield for living organisms.
3. Amber is considered as suitable medium to form a complete body fossil.

B What happens when ... ?

1. Putting a magnesium strip in a test tube containing oxygen.
2. Decrease in water temperature less than 4°C .

C Mention an example for :

1. Tracc. 2. Cast. 3. Petrified fossil. 4. Endangered bird.

Question 4

A Put (✓) or (✗) and correct the wrong ones :

1. The troposphere is the first layer in the atmospheric envelope. ()
 2. The millibar is the unit of measuring the ozone degree. ()
 3. The decrease of plants on the Earth leads to the increase in the temperature. ()
 4. The dinosaur is the most famous extinct species recently. ()

B Define each of the following :

1. Chemical activity series.
 2. Greenhouse phenomenon.

C Find the temperature at a point of height 2000 metres above sea level, if the temperature at sea level is 23°C.

5

Cairo Governorate

Rod-El Farag Directorate
 Saint Mary's School

Answer the following questions :

Question 1

A Complete the following statements :

1. and are metals which don't react with water.
 2. Archaeopteryx represents the link between and
 3. Mendeleev arranged the elements in an ascending order according to, while Moseley arranged them in an ascending order according to
 4. Troposphere layer contains about of the mass of the atmospheric air and about of atmospheric water vapour.
 5. Elements of s-block are located on the of the periodic table and they are arranged in groups.
 6. The polarity of water is than that of ammonia as the difference in between elements of water is than that between elements of ammonia.
 7. is used in food preservation.
 8. The thickness of stratosphere is, while that of mesosphere is

B Find the location of the following elements in the periodic table :

1. $_{11}\text{Na}$

2. $_{18}\text{Ar}$

C What happens when ... ?

1. Dissolving magnesium oxide in water then adding drops of litmus solution to it.
2. Dipping the old insects in amber.
3. Infrared radiations don't reemit back from troposphere layer.
4. There is no difference in electronegativity between hydrogen atom and oxygen atom in water molecule.

Question**2****A Write the scientific term of each of the following :**

1. The strongest metal in group (1A).
2. They are symbolized by the letters s , p , d and f
3. A type of ultraviolet radiation that is absorbed completely (100 %) by the ozone layer.
4. Fossils of living organisms lived for a short time in the past in a wide geographical range then became extinct.
5. A unit that measures the degree of ozone.
6. It is a path of energy that transfers from a living organism to another.
7. The elements that occupy the middle block (d) in the periodic table.
8. The halogen that exists in a liquid state.

B Mention one example for :

1. Extinct bird in recent time.
2. Greenhouse gases.

C Mention one importance for :

1. Liquefied nitrogen.
2. Van-Allen belts.

D Calculate the height of a mountain if the temperature at the foot of the mountain is 30°C and at the top of this mountain is 10.5°C.**Question****3****A Choose the correct answer :**

1. The scientist had discovered the main energy levels.
a. Moseley b. Hofmann c. Bohr d. Mendeleev
2. The replaces the wood material, part by part of an old tree.
a. plastic b. iron c. silica d. copper
3. is an example of microfossils.
a. Mammoth b. Fern c. Foraminifera d. Coral
4. Mammoth fossil is an example of a fossil.
a. cast b. mold c. complete body d. petrified
5. All of the following elements are metalloids except
a. tellurium. b. silicon. c. boron. d. bromine.

6. The air in troposphere layer moves
- a. horizontally. b. vertically. c. inclined. d. no right answer.
7. Which of the following elements is located in the third period ?
- a. ${}_{19}\text{K}$ b. ${}_6\text{C}$ c. ${}_3\text{Li}$ d. ${}_{15}\text{P}$
8. Alkali metals have the following properties except they
- a. have low density. b. conduct electricity.
c. don't react with water. d. conduct heat.

B On electrolysis of acidified water by Hofmann's voltameter :

1. What is the name of the gas that evolves at the anode ?
2. Calculate the volume of the gas formed at the cathode, if the volume of the gas that evolves at the anode is 15 cm^3 .

C What is meant by ... ?

1. Extinction.
2. Aurora phenomenon.
3. Ozone hole.
4. Simple ecosystem.

Question 4

A Correct the underlined words :

1. Nummulites fossils are used to determine the age of the sedimentary rocks.
2. Eating food containing high percentage of lead causes blindness.
3. Moseley put lanthanides and actinides elements on the left side of the periodic table.
4. The number of electrons in positive ion is equal to that of its atom.
5. Storing the tap water in plastic bottles cause the increase of infection of hepatitis.

B Give reasons for :

1. Most of weather conditions take place in the troposphere layer.
2. Atomic size of sodium (${}_{11}\text{Na}$) is greater than that of magnesium (${}_{12}\text{Mg}$).
3. Adding drops of dilute acid to water during its electrolysis.
4. Pure water doesn't affect blue and red litmus papers.

C Compare between : Cast and mold.

D Write the balanced chemical equation of the following reactions :

1. Burning a piece of coal in air.
2. Sodium bromide with chlorine.
3. Potassium with bromine.

6

Cairo Governorate

Basateen & Dar El-Salam
Educational Administration

Answer the following questions :

Question

1

A Choose the correct answer :

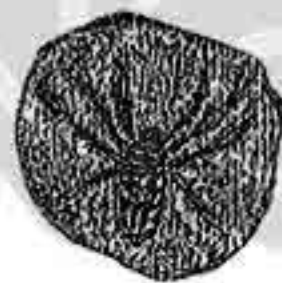
- Bilharzia is due to the pollution of water.
 - biological
 - thermal
 - chemical
- The atomic radius is measured in
- A fossil that plays an important role in petroleum exploration is
- The difference in electronegativity between the two elements of a polar compound is
- Ice crystals have shape.

B If the temperature at the base of a mountain is 20.6°C , calculate the temperature at its top if the mountain's height is 8862 m.

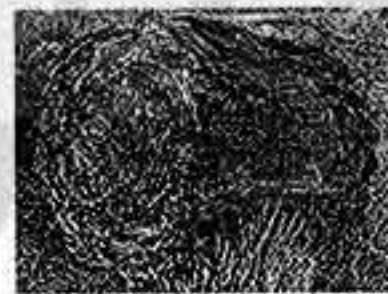
© Use the figures below to write the correct letter in the space provided :



(a) Archaeopteryx



(b) Insect in amber



(c) Petrified wood



(d) Foraminifera



(e) Ammonites

Main characteristics of fossils	Letter
1. An example of complete body preserved from decaying and form fossil.	
2. A rock mold carrying the internal details of the snail.	
3. Minerals replace the organic matter of organism, part by part, without changing its shape.	
4. Used to study life evolution as it represents the link between reptiles and birds.	
5. A good indication of the age of rocks and suitable conditions of petroleum formation.	

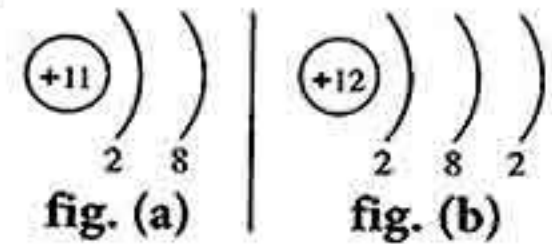
Question 2

A Write the scientific term of each of the following :

1. A table in which the elements are arranged according to their atomic weights.
2. An area where the atmospheric envelope is inserted in outer space.
3. Elements where their valency shell contains more than four electrons.
4. A molecule produced from the union of an oxygen atom and its molecule.
5. A safe place used to protect endangered species from extinction.
6. They indicate the age of sedimentary rocks in which they are found.

B Study the opposite figures and answer the following questions :

1. Which figure represents a positive ion ?
2. Which figure represents a neutral atom ?
3. Determine the position of the atom in the periodic table.



C What is the difference between ?

1. Simple and complex ecosystems.
2. The importance of nummulites and ferns fossils.

Question 3

A Correct the underlined words :

1. Dissolving basic oxides in water produces acids.
2. Zero group contains active gases.
3. The layer that represents (75%) of the atmospheric air mass is mesosphere.
4. Atmospheric pressure is measured by a unit called dobson.
5. Radio waves are reflected and transmitted by communication centres in stratosphere.
6. From the most important greenhouse gases is ammonia.

B Give reasons for :

1. Water has high boiling point.
2. Bromine cannot replace chlorine in sodium chloride.
3. Ozone layer acts as a protective shield for living organisms.
4. Global warming phenomenon has negative effects on Earth.

Question 4

A The opposite figure shows the reaction of sodium and water :

1. Write the balanced chemical equation of the reaction.
2. Name the gas produced and how you can test about it.



B Mention the importance of :

1. Liquid sodium.
2. Ras Mohamed protectorate.
3. Altimeter.
4. Coral fossils.

C Write a balanced symbolic chemical equation for the following reactions :

1. Carbon dioxide with water.
2. Potassium iodide with bromine.
3. Magnesium with dilute hydrochloric acid.

7

Giza Governorate

Boulak El-Dakroul Directorate
Dar El-Hanan Language School

Answer the following questions :

Question

1

A Complete the following statements :

1. Moseley put and series below the periodic table.
2. Each period in the modern periodic table starts with and ends with
3. The valency of alkali metal elements is
4. and are endangered mammals.
5. Fossils are used in exploration and determination the age of
6. Fossils always exist in the

B Mention the use of :

1. Liquid sodium.
2. Cobalt 60.

Question

2

A Write the scientific term :

1. A bond that exists between water molecules.
2. Indicated by the letters K, L, M, N, O.
3. A device used to measure the elevations above sea level.
4. Two magnetic belts help in scattering the harmful cosmic radiations away from the Earth.
5. Safe areas established to protect the endangered species in their homeland.

B Give reasons for :

1. Elements of the same group have the same properties.
2. Liquefied nitrogen is used in preservation of cornea of eye.
3. The lower part of stratosphere is suitable for flying planes.
4. The simple ecosystem is significantly affected by the absence of one of its species.

Question 3

A Correct the underlined words :

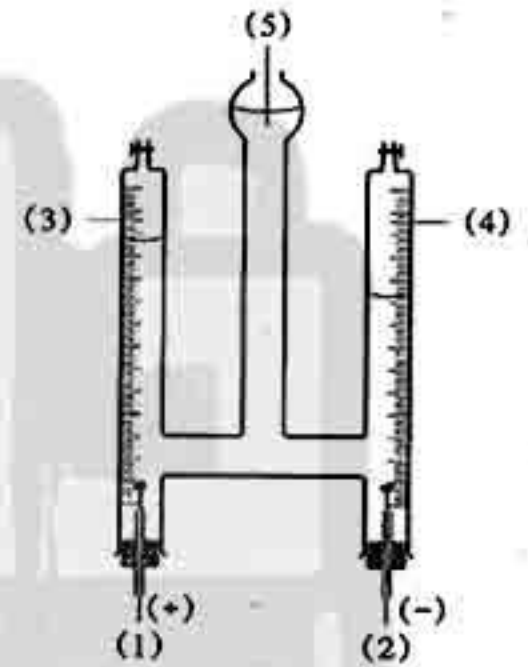
1. The elements with the same physical and chemical properties have been put in horizontal periods.
2. All weather phenomena like rains, wind and clouds occur in the ionosphere.
3. Millibar is the unit of measuring the ozone degree.
4. Archaeopteryx fossil is a kind of extinct elephants.
5. Ammonites fossils indicate that the environment where they lived was warm clear shallow seas.

B Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question 4

A From the opposite figure :

1. What is the name of this apparatus ?
2. Label the figure.



B Locate the position of the following atoms in the periodic table :

1. $_{10}\text{Ne}$
2. $_{20}\text{Ca}$
3. $_{17}\text{Cl}$
4. $_{1}\text{H}$

Answer the following questions :

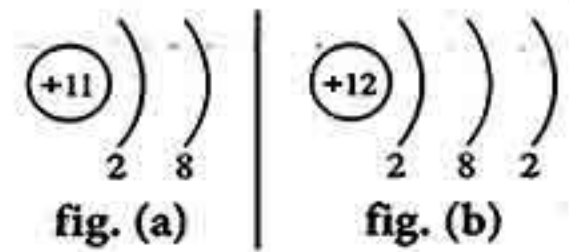
Question 1

A Write the scientific term :

1. The number of positive protons inside the nucleus.
2. The product of dissolving nonmetallic oxides in water.
3. The alkali elements.
4. A good polar solvent for most of ionic compounds and some of covalent compounds.
5. Brightly coloured light curtains at both north and south poles of the Earth.

B Study the opposite figures, then answer :

1. Which one represents : (Positive ion – neutral atom).
2. Locate the position of the element in the periodic table (period – group).



- C** 1. If the temperature at the bottom of Everest mountain is 20.6°C .
Find the temperature at its top if the height of the mountain is 8862 m.
2. Mention an example for each of the following :
- (1) Fossil of a complete body.
 - (2) Endangered plant.
 - (3) An extinct bird recently.

Question

2

A Give reasons for :

1. Elements of the same group in the modern periodic table have similar properties.
2. Potassium reacts with water instantly and faster than sodium.
3. Rising of boiling point and freezing point of water.
4. The lower part of stratosphere is suitable for flying planes.
5. Desert ecosystem is considered as a simple ecosystem.

B 1. A metallic element (X) lies in the third period and group (1A) in the modern periodic table :

- (1) Draw the electronic distribution of this element.
- (2) Mention the atomic number of this element.
- (3) What is the block that this element belongs to ?
- (4) What is the valency of this element ?

2. Mention one importance for each of the following :

- | | |
|------------------------|----------------------|
| (1) Slides of silicon. | (2) Van-Allen belts. |
|------------------------|----------------------|

C 1. What happens when ... ?

- (1) The reaction of chlorine with the solution of potassium bromide.
- (2) Dissolving magnesium oxide in water.

2. Mention one difference between :

- (1) Fluorine molecule and helium molecule.
- (2) The period number of an element and the group number of an element.
- (3) Metals and nonmetals.

Question 3

A Correct the underlined words :

1. Transition elements start from the second period.
2. Inert gases have the properties of metals and nonmetals.
3. Hydrogen used in preserving eye cornea.
4. Fossils are often found in igneous rocks.
5. From ozone layer pollutants are halons which are used in cooling devices.

B Write a brief description of :

1. Global warming.
2. The relation between density of water and its temperature.

C Choose the correct answer :

1. The element, whose atomic number is (15) is similar in its chemical properties as the element whose atomic number is
a. 5 b. 7 c. 17 d. 19
2. The measuring unit of the atomic size is
a. micrometre. b. picometre. c. millimetre. d. millibar.
3. Ice crystal has shape.
a. hexagonal b. octagonal c. quadrant d. pentagonal
4. Meteors are formed in
a. thermosphere. b. mesosphere. c. stratosphere. d. troposphere.
5. Microfossils like
a. mammoth. b. ferns. c. foraminifera. d. archaeopteryx.

Question 4

A Complete the following statements :

1. Sodium is kept under surface to prevent its reaction with
2. Troposphere extends above sea level to with thickness about
3. Ultraviolet radiations have effect, while infrared radiations have effect.
4. Fossils are used in searching for and indicate the age of rocks.
5. protectorate in USA, where is protected.

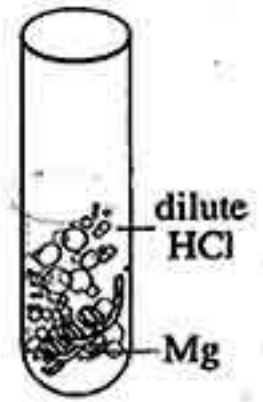
B 1. What is meant by ... ?

(1) Metalloids.

(2) Aurora phenomenon.

2. Write the electronic distribution of elements (X, Y) with atomic numbers (10, 9) respectively and then locate them in the modern periodic table.

- C** 1. Compare between acidic oxides and basic oxides according to :
(product that dissolves in water - affect on litmus paper - giving example).
2. Study the opposite figure, then answer the questions :
(1) Write the balanced equation.
(2) What happens when approaching a lighted match to the opening of the tube.



9

Giza Governorate

6th October Educational Directorate
Om El-Moumeneen Language Schools

Answer the following questions :

Question

1

- A** Write the scientific term :
1. Safe areas established to protect the endangered animals.
 2. The replica of the internal details of the living organism.
 3. Weak electrostatic attraction that arises between the molecules of the polar compounds.
 4. It is a phenomenon that appears as brightly coloured curtains seen at the two poles.
 5. It is the process of replacing the wood material by silica to form petrified wood.
 6. Decrease in the thickness of ozone layer.
 7. The descending arrangement of elements according to their chemical activity.
- B** Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C).
- C** Locate the position of the following elements in the modern periodic table :
- | | | | |
|---------------------|---------------------|--------------------|-------------------|
| 1. $_{17}\text{Cl}$ | 2. $_{10}\text{Ne}$ | 3. $_{3}\text{Li}$ | 4. $_{8}\text{O}$ |
|---------------------|---------------------|--------------------|-------------------|

Question

2

- A** Give reasons for :
1. Cesium is the most active metal in group (1A).
 2. Sugar dissolves in water.
 3. Ozone layer exists in stratosphere layer.
 4. The extinction of some animals in recent ages.
- B** Mention three ways to protect water from pollution.
- C** Mention the importance of :
- | | | |
|-------------|------------------------|---------------------|
| 1. Aneroid. | 2. Liquefied nitrogen. | 3. Van-Allen belts. |
|-------------|------------------------|---------------------|

D Give an example for :

1. Endangered plant.
2. Amphoteric oxide.
3. Liquid element from halogens.
4. Cast fossil.

Question 3**A Complete the following statements :**

1. "d" block elements are called the elements.
2. and are from greenhouse gases.
3. There is a bond between hydrogen and oxygen in water molecule.
4. Cobalt 60 has the ability to kill
5. The existence of the coral fossils in a certain area indicate that the environment was
6. and are from ozone layer pollutants.
7. The strongest nonmetal lies in group
8. When the atomic number increases in the same period, the metallic property

B Compare between :

1. Simple ecosystem and complicated ecosystem.
2. Basic oxides and acidic oxides.

Question 4**A Choose the correct answer :**

1. The degree of ozone under STP condition is..... Dobson.
a. 100 b. 200 c. 300
2. The first protectorate in Egypt is protectorate.
a. Ras Mohamed b. Wadi El-Raiyan c. Panda
3. From the complete body fossils is
a. mammoth. b. nummulites. c. fish.
4. The number of elements in the Earth's crust equals
a. 118 b. 92 c. 120
5. The atmospheric pressure at the top of a mountain equals bar.
a. 1 b. 0.05 c. 1.88
6. is an example of microfossils.
a. Ferns b. Foraminifera c. Archaeopteryx

B Mention the role of the following scientists :

1. Moseley.
2. Bohr.

C Complete the equations :

1. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$
2. $2\text{Na} + 2\text{H}_2\text{O} \longrightarrow \dots + \dots$

10

Giza Governorate

Abu El-Nomrous Directorate
Future Generation Language School

Answer the following questions :

Question

1

A Choose the correct answer :

- is/are used in extinguishing fires.
 - Methyl bromide
 - Halons
 - Nitrogen oxides
 - UV radiation
- The second layer of atmosphere is called
 - mesosphere.
 - troposphere.
 - stratosphere.
 - thermosphere.
- The transition elements start to appear from the beginning of the period.
 - second
 - third
 - fourth
 - fifth
- All of the following are from endangered species except
 - papyrus plant.
 - bald eagle.
 - quagga.
 - rhinoceros.
- p-block contains groups.
 - 10
 - 2
 - 6
 - 8
- All of the following are greenhouse gases except
 - CO₂
 - O₂
 - N₂O
 - CH₄
- Group (B) contains elements.
 - halogens
 - nonmetals
 - transition
 - metalloids
- The inert gas that has the same electronic structure as (Na⁺) is
 - ¹⁰Ne
 - ²He
 - ¹⁸Ar
 - ¹⁷Cl

B Give reasons for :

- The lower part of stratosphere is suitable for flying planes.
- It is difficult to identify semi-metals based on the electronic configuration.

C If the temperature at the sea level is 39.5°C, find the temperature at the top of a mountain of height 3650 m above the Earth's surface.

Question

2

A Put (✓) or (x) and correct the wrong ones :

- All periods start with a metal element. ()
- Hofmann's voltameter is used for water ionization. ()
- Mesosphere is the layer which is responsible for burning of meteors. ()
- Ozone layer totally absorbs all kinds of ultraviolet radiations. ()
- Tellurium is a metalloid. ()
- Complicated ecosystem contains two species. ()
- Petrified woods look like rocks and are considered as fossils. ()
- Altimeter is a kind of barometers. ()

Part 3

B What do the following numbers indicate ... ?

1. 118

2. 104.5°

3. 100°C

4. 1013.25 mb

C Compare in a table between groups (1A) and (7A).

Question 3

A Complete the following statements :

1. The safe areas established to protect endangered species are called
2. causes liver cancer.
3. $\text{MgO} + \text{H}_2\text{O} \longrightarrow$
4. is responsible for the high boiling point of water.
5. The satellites rotate around the Earth in layer.
6. The scientist discovered the main energy levels.
7. Mammoth fossil is preserved in
8. Water has effect on litmus paper.

B What happens when ... ?

1. Storing water in plastic bottles of mineral water.
2. Increasing the numbers of cars in streets.
3. Element loses an electron.
4. Ozone layer disappeared.

C Arrange the following elements in an ascending order according to the metallic property and give a reason :

Sodium ($_{11}\text{Na}$) – Magnesium ($_{12}\text{Mg}$) – Potassium ($_{19}\text{K}$) – Cesium ($_{55}\text{Cs}$)

Question 4

A Write the scientific term :

1. The measuring unit of the atomic size of an element.
2. The region between troposphere and stratosphere.
3. The number of protons inside the nucleus of the atom of an element.
4. The halogen which exists in a solid state.
5. Remains of old living organisms that are preserved in sedimentary rocks.
6. The permanent change of water by adding any substance.
7. The descending arrangement of elements according to their chemical activity.
8. They are safe areas established to protect endangered species in their homeland.

B Locate the position of the following elements in the periodic table (show their configuration) :

1. Calcium ($_{20}\text{Ca}$).

2. Silicon ($_{14}\text{Si}$).

C What is meant by ... ?

1. Ozone layer.

2. Electronegativity.

11

Alexandria Governorate

Middle Educational Zone
New S.L.S. "Girls"

Answer the following questions :

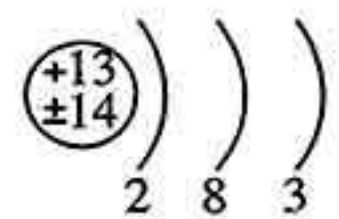
Question

1

A Write the scientific term of each of the following :

1. The scientist who discovered that the atom contains positive protons in the nucleus.
2. Elements which have properties of metals and nonmetals.
3. Adding any substance to the water which changes its properties, affects the health and life of living organisms.
4. The weight of air column on a unit area (1m^2).
5. Two magnetic belts surrounding ionosphere and play an important role in scattering harmful charged cosmic radiations.
6. The continuous increase in the average temperature of the Earth's near surface air due to the greenhouse effect.
7. Traces and remains of old living organisms that are preserved in sedimentary rocks.
8. The continuous decrease without compensation in the number of a certain species until all the members of species die out.
9. The apparatus which is used for water electrolysis.
10. A mammal between horse and zebra that extinct recently due to overhunting.
11. The ability of the atom to attract the electrons of the covalent bond towards itself.

B Look at the opposite figure, then find the location of this element in the modern periodic table. Mention the block of this element.



Question

2

A Give reasons for :

1. Atomic size decreases in the period from left to right.
2. Reaction of potassium with water is stronger than that of sodium with water.
3. Pilots prefer to fly their planes in stratosphere layer.
4. Silicon slides are used in making electronics as computers.

B Choose from column (B) what suits it in column (A) :

(A)	(B)
1. $2\text{Na} + 2\text{H}_2\text{O} \longrightarrow$	a. unit of measuring the thickness of ozone layer.
2. $\text{Br}_2 + 2\text{KI} \longrightarrow$	b. is from endangered species.
3. Coral fossils	c. $2\text{NaOH} + \text{H}_2$
4. Dobson	d. extinct because it has small wings so, it was easy to get hunted.
5. Dodo bird	e. $2\text{KBr} + \text{I}_2$
6. Papyrus plant	f. showed that the environment where they lived was clear, warm and shallow seas.

C Correct the underlined words in each of the following statements :

1. Pure water has acidic effect on litmus paper.
2. Ultraviolet radiation has thermal effect on the Earth.
3. Increasing the concentration of mercury in water causes liver cancer.
4. Snow is a solidified resinous matter secreted by pine trees.

Question 3

A Find the temperature at a point of height 10 km above sea level, if the temperature at sea level is 24°C .

B Complete each of the following statements :

1. is from the examples of polar compounds because the difference in electronegativity between its elements is relatively
2. classified the elements in his table according to their properties and atomic mass.
3. is a type of barometers used to determine the possible day weather.
4. is from the factors that cause extinction of species.
5. Microfossils (foraminifera and radiolaria) help in exploration.
6. $\text{Mg} + 2\text{HCl} \xrightarrow{\text{dil.}}$ +
7. and are from greenhouse gases.
8. fossils indicate the age of sedimentary rocks.

Question 4

A Choose the correct answer :

1. protectorate is a natural protectorate in USA where grey bear is protected.
a. Ras Mohamed b. Wadi El-Raiyan c. Bluestone d. Panda
2. Ozone layer prevents (100 %) of ultraviolet rays from passing to the Earth.
a. near b. medium c. far d. (a) and (b) together

3. The modern periodic table contains elements.
 a. 26 b. 92 c. 100 d. 118
4. Which of the following is an acidic oxide ?
 a. CO_2 b. MgO c. Na_2O d. FeO
5. Which of the following is a radioactive element which is used in food preservation ?
 a. Liquid sodium. b. Liquefied nitrogen.
 c. Cobalt 60. d. Water.
6. Which of the following is correct about alkali metals ? They
 a. have high density. b. are monovalent.
 c. are bad conductors of electricity. d. form negative ions.
7. Water has high boiling point due to the presence of bonds between its molecules.
 a. hydrogen b. ionic c. covalent d. metallic
8. added group zero in his table for noble gases.
 a. Mendeleev b. Moseley c. Rutherford d. Einstein
9. Which of the following is the halogen that exists in a solid state ?
 a. Fluorine. b. Chlorine. c. Bromine. d. Iodine.
10. When putting a glass bottle completely filled with water in the freezer, it breaks because when water freezes its increases.
 a. temperature b. density c. volume d. acidity
11. Which of the following elements don't react with water ?
 a. K and Na b. Ca and Mg c. Zn and Fe d. Cu and Ag
12. What is the volume of hydrogen gas evolved from electrolysis of acidified water if you know that the volume of oxygen gas evolved is 2 cm^3 ?
 a. 1 cm^3 b. 2 cm^3 c. 4 cm^3 d. 6 cm^3

B Mention the type of the fossils shown in the following figures :

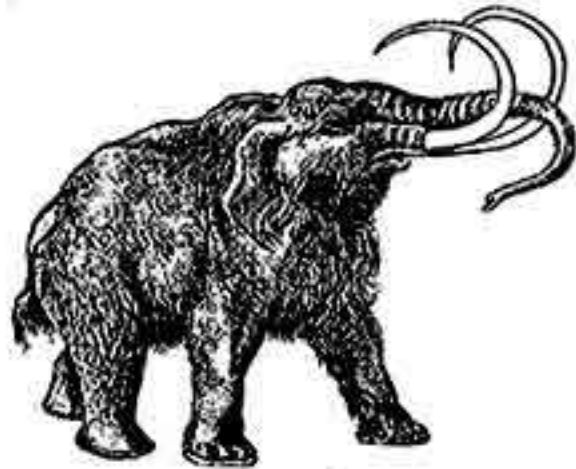


fig. (1)

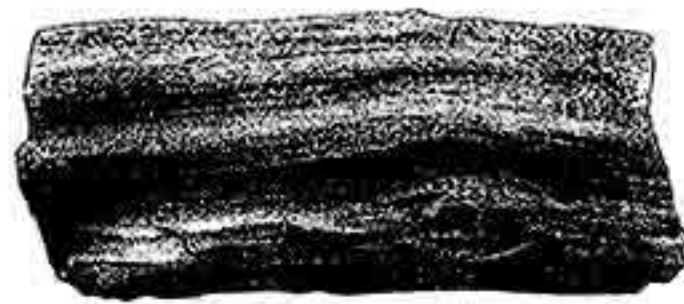


fig. (2)

12 Alexandria Governorate

El-Agamy Educational Zone

Answer the following questions :

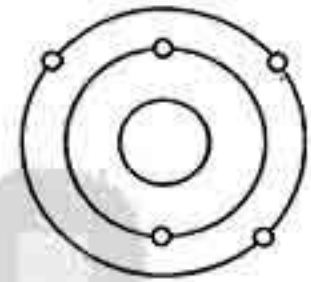
Question 1

A Complete the following statements :

1. From types of fossils are and
2. The new number for group (6A) is
3. $\text{Mg} + 2\text{HCl} \xrightarrow{\text{dil.}}$ +
4. The coldest layer in atmosphere is called , while the hottest layer is called
5. $2\text{NaBr} + \text{Cl}_2 \longrightarrow$ +
6. The nuclear reactors cause pollution for water.

B Look at the opposite figure, then calculate :

1. The atomic number of the element follows it in the same period.
2. The atomic number of the element follows it in the same group.



Question 2

A Choose the correct answer :

1. Fossils are often formed in rocks.
a. metamorphic b. sedimentary c. igneous
2. From the extinct species is
a. dodo bird. b. lion. c. panda.
3. form positively charged ions when they enter in a chemical reaction
a. Inert gases b. Halogens c. Alkali metals
4. The unit of measuring the degree of ozone is
a. km. b. litre. c. dobson.
5. From the endangered species is
a. bald eagle. b. passenger pigeon. c. tasmanian cat.
6. The device that is used for determining the elevation from sea level is
a. aneroid. b. altimeter. c. thermometer.
7. Decreasing CO_2 gas percentage is caused by
a. cutting trees. b. cultivating trees. c. burning fossils fuel.
8. All of the following elements are from semi-metals except
a. silicon. b. boron. c. bromine.
9. The atmospheric pressure on the top of a mountain is the atmospheric pressure at the sea level.
a. more than b. less than c. equal to

- B** Calculate the temperature at the top of a mountain if you know that the temperature at its foot is 26°C and its height is 4 km.

Question 3

- A** Write the scientific term :

1. The continuous decrease in the number of a certain species of living organisms without compensation until the last member of the species dies out.
2. Shells in the atom structure indicated by the letters K, L, M, N, O
3. Appearance of bright coloured light curtains at the two poles.
4. The weight of air column of an atmospheric height on a unit area.
5. A charged layer which reflects radio waves.
6. The continuous increase in the average temperature of the Earth.

- B** Locate the following element in their position in the modern periodic table :

1. $_{20}\text{Ca}$

2. $_{17}\text{Cl}$

3. $_{3}\text{Li}$

4. $_{7}\text{N}$

Question 4

- A** Give reasons for the following :

1. Water molecule is a polar compound.
2. The lower part of stratosphere is suitable for flying planes.
3. Tropical forest is a complicated ecosystem.

- B** Correct the underlined words :

1. Sodium is used in making electronic slides.
2. Cobalt 60 is used in preservation of cornea of eye.
3. When water freezes, its density increases.
4. The ozone hole appears above the middle east.

13 Alexandria Governorate

Al-Gomrok Educational Zone

Answer the following questions :

Question 1

- A** Choose the correct answer :

1. The temperature at the top of mesosphere layer reaches
a. -60°C b. -90°C c. 0°C d. 120°C
2. The strongest metal locates in group
a. 2A b. 1A c. 7A d. zero

3. is an example of extinct species.
- a. Panda bear b. Bald eagle c. Quagga d. Papyrus plant
4. If the atomic number of an element is 15, so the electronic configuration of its ion is
- a. (2,8,8). b. (2,8). c. (5,8,5). d. (2,5,8).
5. The gas produced from the reaction between sodium bicarbonate and vinegar is
- a. CH_2 b. N_2O c. H_2 d. CO_2

B What happens in the following cases ... ?

1. Decrease in water temperature less than 4°C .
2. Storing tap water in plastic bottles of mineral water.

C Locate the position of these elements in the modern periodic table :

1. ${}_2\text{He}$
2. ${}_{19}\text{K}$
3. ${}_7\text{N}$

Question 2

A Write the scientific term :

1. The continuous decrease in the number of species without compensation until all die out.
2. The hottest layer in the atmosphere.
3. The elements which have the properties of both metals and nonmetals.
4. They are safe areas established to protect the endangered species in their homeland.
5. The radioactive element that is used in food preservation.

B Compare between :

Mendeleev's periodic table and modern periodic table.

C Mention one use or importance for the following :

1. Hofmann's voltameter.
2. Liquefied nitrogen.
3. Van-Allen belts.

Question 3

A Complete the following statements :

1. The fossils are found in rocks.
2. Increasing the concentration of in water causes the death of brain cells.
3. $\text{Br}_2 + 2\text{KI} \longrightarrow \dots + \dots$
4. The snow crystal has shape.

B If a mountain, its height is 6000 m and the temperature at its base is 30°C . Calculate the temperature at its top.

C Mention one example for :

1. An element doesn't react with water.
2. A type of microfossils which is considered a guide for existence of petroleum.
3. An endangered bird.

Question 4**A** Correct the underlined words :

1. Methyl bromide used in extinguishing fires.
2. The unit of measuring the degree of ozone layer is bar.
3. Ca and Na react slowly with water.
4. Lithium is the strongest metallic element in group (1A).
5. O₂ is from greenhouse gases.

B Give reasons for the following :

1. Freon gas has bad effects on the environment.
2. By increasing the atomic number among groups, the atomic size increases.
3. Amber is considered a suitable medium for formation of complete body fossils.

C Write the balanced chemical equations representing each of the following :

1. Magnesium with hydrochloric acid.
2. Reaction of sodium with water.

14 El-Qalyoubia Governorate

Banha Educational Zone

Answer the following questions :

Question 1**A** Choose the correct answer :

1. All of the following elements are from semi-metals except
a. tellurium. b. silicon. c. boron. d. bromine.
2. The strongest metal locates in group
a. 2A b. 1A c. 1B d. 7A
3. Ozone layer doesn't allow the passage of ultraviolet rays.
a. near b. medium
c. far d. all the previous answers
4. There are bonds between water molecules.
a. hydrogen b. covalent
c. ionic d. all the previous answers

B Mention one importance or use for :

1. Altimeter.
2. Foraminifera microfossil.
3. Silicon.
4. Mesosphere.

C Complete the following equations :

1. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots\dots\dots$
2. $\text{Br}_2 + 2\text{KI} \longrightarrow \dots\dots\dots + \dots\dots\dots$
3. $2\text{Na} + \dots\dots\dots \longrightarrow 2\text{NaOH} + \dots\dots\dots \uparrow$
4. $2\text{H}_2\text{O} \xrightarrow{\text{electrolysis}} \dots\dots\dots \uparrow + \dots\dots\dots \uparrow$

Question 4

A Correct the underlined words :

1. Elements in group (1A) are known as halogens.
2. Mammoth is one of the examples of petrified fossils.
3. Ozone degree is measured in picometre unit.
4. Each period ends with a nonmetal.

B What happens when ... ?

1. Putting lithium in kerosene.
2. Drinking water polluted with mercury.
3. Increasing the use of CFC_s on Earth.
4. Mixing of animal and human wastes in water.

C Compare between (related to definition and examples) :

1. Simple ecosystem and complicated ecosystem.
2. Cast and mold.

15 El-Sharkia Governorate

West Zagazig Admin.

Answer the following questions :

Question 1

A Choose the correct answer :

1. Elements of the modern periodic table are classified into block(s).
a. one b. two c. three d. four
2. is an atom of a non-metallic element which gains an electron or more during the chemical reaction.
a. Positive ion b. Negative ion
c. Excited atom d. No correct answer

3. All of the following are greenhouse gases except

- a. O_2 b. CO_2 c. N_2O d. CH_4

4. The ozone degree is measured by a unit called

- a. km. b. mm^2 c. dobson. d. millibar.

B Give reasons for :

1. Sodium is kept under the surface of kerosene.
2. Ionosphere layer is important for radio stations.

C What is meant by ... ?

1. Water pollution.
2. Global warming phenomenon.

Question 2

A Put (✓) or (✗) and correct the wrong ones :

1. Ferns fossils indicate that the environment where they lived was a sea floor. ()
2. The boiling point of liquefied nitrogen is ($-196^\circ C$). ()
3. Stratopause is the region between stratosphere and troposphere. ()
4. Tropical forest is an example of complicated ecosystem. ()

B What is the importance of ... ? (give only one use)

1. Cobalt 60
2. Fossils.

C Locate the position of the following elements in the modern periodic table :

1. $_{10}Ne$
2. $_{19}K$

Question 3

A Complete the following sentences :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. Archaeopteryx is the link between and
3. The highest temperature layer in the atmosphere is and the least temperature one is
4. Group (1A) is called, but group (7A) is called

B Give one example for :

1. An extinct bird.
2. A polar compound.
3. Severe climatic changes.
4. An endangered plant.

C What happens when ... ?

The absence of one type of species from the simple ecosystem.

Question 4

A Write the scientific term :

1. The solidified resinous matter which was secreted by pine trees during old geologic ages.
2. The bond between water molecules.
3. A gas which is important for building ozone gas.
4. A phenomenon that appears as brightly coloured light curtains seen at the both poles of the Earth.

B Compare between :

1. Trace and remains.
2. Troposphere and stratosphere.

C Write the chemical equation which represents the following reactions :

1. Magnesium with dilute hydrochloric acid.
2. Carbon dioxide with water.

16 El-Menofia Governorate

Shebin El-Kom Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. In the periodic table, the elements which are identical in properties lie in the same
2. Mendeleev had to deal with the of one element as different elements, because they are different in their
3. d-block contains elements.
4. $2\text{Na} + 2\text{H}_2\text{O} \longrightarrow \dots + \dots$
5. Among the most famous types of barometers are and
6. Types of fossils differ according to their way of
7. The snow crystal's shape is and its density is than water density.

B Locate the position of the following elements in the modern periodic table :

1. ${}_1\text{H}$
2. ${}_{10}\text{Ne}$
3. ${}_{20}\text{Ca}$

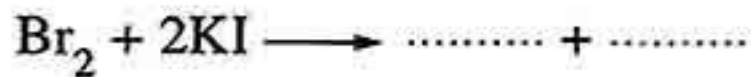
Question 2

A Write the scientific term :

1. They are the elements which have the properties of both metals and nonmetals.
2. A table in which the elements are arranged according to their atomic numbers.
3. It is the curved lines that join the points of equal pressure in atmospheric pressure maps.
4. Safe places are specialized for protecting endangered species in their homeland.

B Give reasons for :

1. Cesium (Cs) is considered one of the strongest metallic elements.
2. Mesosphere layer is highly rarefied (vacuumed).
3. Petrified woods are considered from fossils although they look like rocks.

C Complete the following equation :**Question 3****A Put (✓) or (✗) and correct the wrong ones :**

1. The solutions produced from dissolving the nonmetal oxides in water, turn the violet litmus solution into red. ()
2. Copper (Cu) and silver (Ag) react very slowly with cold water. ()
3. Bohr had discovered the main energy levels. ()
4. Ferns fossils indicate that the environment where they lived was a sea floor. ()

B Compare between the following :

1. Chlorine and bromine. (according to : the physical state and chemical activity)
2. Simple ecosystem and complicated ecosystem. (according to : definition and examples)

C Arrange the following elements in a descending order according to the metallic property ? Why ? ($_{11}\text{Na} - _{12}\text{Mg} - _{19}\text{K}$)**D Calculate the height of a mountain if the temperature at its foot is 30°C and at its top is (-9°C) .****Question 4****A What is meant by each of the following ... ?**

1. Global warming phenomenon.
2. Trace.
3. The degree of ozone above an area is 300 dobson.

B Mention one example for :

1. Element used in food preservation.
2. Mold.
3. Cast.

C What happens in the following situations ... ?

1. Putting a hot water container in the freezer and close the fridge.
2. Dipping of old insects in resinous matter and the matter solidifies.
3. Mixing of animal and human wastes with water.

17

El-Dakahlia Governorate

Educational Directorate

Answer the following questions :

Question

1

- A Using the following diagram which represents a part of the periodic table, answer the following questions :

1H																2He
3	X									5	6	Y	8	9	10	
11	12												Z	17	G	
19	M														35	36Kr

1. Write the letter(s) of the element(s) which is/are :

- (1) among transition elements.
- (2) located in period (3) and group (6A).
- (3) among noble gases.
- (4) considered among s-block.
- (5) considered among p-block.

2. Choose :

- (1) The letter (Y) represents element.

- a. 9F b. 8O c. 12Mg d. 7N

- (2) The letter (M) represents element.

- a. 12Mg b. 16S c. 20Ca d. 18Ar

- (3) The letter (N) is located in block.

- a. s b. p c. d d. f

3. What is the atomic number of the elements (N) and (G) ?

B Problem :

If the temperature at sea level is 24.5°C , find the temperature at the top of troposphere layer if its thickness is 13 kilometre.

Question

2

- A Choose the correct answer :

1. The properties of the element which has atomic number equals 17 are similar to the element which has atomic number equals

- a. 7 b. 9 c. 15 d. 20

2. is the lowest metallic element is group (1A).

- a. Na b. Cs c. K d. Li

3. The oxide which dissolves in water and produces an acid is
 a. MgO b. FeO c. CuO d. CO₂
4. The gas which is evolved on reacting alkali metals with water is
 a. oxygen. b. nitrogen. c. hydrogen. d. helium.
5. The volume of hydrogen gas evolving from water electrolysis is the volume of oxygen gas.
 a. equal to b. twice c. half d. four times
6. One dobson unit is defined as
 a. 3 mm. b. 0.1 mm. c. 0.01 mm. d. 2 mm.

B "Ozone layer is found in the stratosphere layer, it's important to protect the life of organisms"

- What is the average thickness of ozone layer in atmosphere ?
- What is the only element that forms ozone gas ?
- Complete :
 a. Ozone layer protects the Earth from the harmful effects of radiation.
 b. The thickness of ozone layer at STP is
- Put (✓) or (✗) :
 Ozone layer prevents penetration of all types of UV radiation. ()

Question 3

A Give reason for each of the following :

- Mammoth fossil is preserved as a complete body fossil.
- Naming the bald eagle by this name.
- Water molecule is from polar compounds.
- The global warming phenomenon has negative effects on Earth.

B Arrange the following fossils starting with first appearance on the life stage with explanation :

(Cast fossil of fish – Mammoth fossil – Trilobite fossil – Archaeopteryx fossil)

Question 4

A Write the scientific term of each of the following :

- The continuous decrease in the number of a certain species of living organisms, without compensation until they all die out.
- A group of food chains connected with each other.
- The environmental system that is not affected severely by the absence of one species of living organisms that live in it.

4. An aquatic plant used by pharaohs to manufacture writing papers.
5. Traces and remains of old living organisms that are preserved in the sedimentary rocks.
6. Safe places that are specified to protect the endangered species in their homeland.

B Calculate :

The percentage of erosion of ozone layer in a certain area, knowing that ozone degree at this area is 255 dobson.

18 Ismailia Governorate

Educational Directorate

Answer the following questions :

Question 1

A Choose the correct answer :

- Elements of group (7A) are known as
a. inert gases.
c. halogens.
- Meteors are burnt in layer.
a. ionosphere
b. stratosphere
- Elements of the same period in the modern periodic table have the same
a. number of energy levels.
c. number of electrons in the outermost energy level.
- protectorate is the first one established in Egypt.
a. Ras Mohamed
b. Wadi Hetan
- Metal oxides are oxides.
a. acidic
b. basic
- All of the following are greenhouse gases except
a. CO₂
b. O₂
- Fossils are preserved in rocks.
a. sedimentary
b. igneous
- There are bonds between water molecules.
a. ionic
b. covalent

B Give reasons for the following :

1. The lower part of stratosphere is suitable for flying aeroplanes.
2. Simple ecosystem is affected strongly by the absence of one of its species.
3. The atomic size increases by increasing the atomic number within the same group in the modern periodic table.
4. Stopping producing concorde aeroplanes.

C Mention one use for the following elements :

1. Radioactive cobalt 60.

Question 2

A Correct the underlined words :

1. The ozone layer is found in thermosphere layer.
2. Ferns fossils indicate that the environment where they lived was a sea floor.
3. $Mg + 2HCl \xrightarrow{dil.} Mg + Cl_2$
4. Aneroid is an instrument used to determine the elevation of aeroplanes above sea level.
5. Ice crystals have round shape and large volume.
6. Copper reacts instantly with water and hydrogen gas evolves.
7. Elements of p-block are organized in two groups.

B What happens when... ?

1. Ascending up in troposphere (concerning : temperature and atmospheric pressure).
2. Existence of ozone in conditions of standard temperature and pressure (STP).

C If the temperature at the base of a mountain = 30°C and its height = 2000 m, Find the temperature at its top.

D Mention three ways to protect living organisms from extinction.

Question 3

A Complete the following sentences :

1. Most of weather phenomena happen in layer.
2. Transition elements start to appear from period number in the modern periodic table.
3. Archaeopteryx is the link between birds and
4. The ozone layer doesn't allow the penetration of all ultraviolet rays.
5. is an example of polar compounds.
6. Increasing of mercury concentration in drinking water causes
7. Fluorine and chlorine exist in state.
8. is from the negative effects of global warming phenomenon.

B Locate the position of the following elements in the modern periodic table :

1. ${}_{20}Ca$
2. ${}_{18}Ar$

C Mention one example for each of the following :

1. Fossils are found in El-Mokattam mountain.
2. One element from alkali metals.
3. An endangered bird.
4. A metalloid element.

Question 4

A Write the scientific term of each of the following :

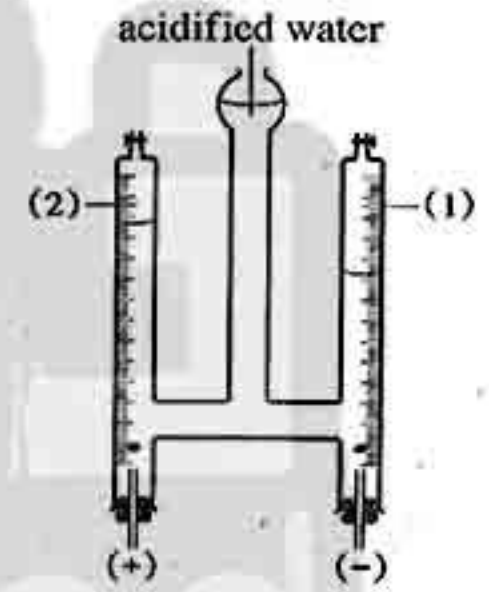
1. A charged layer reflects radio waves.
2. A kind of water pollution, which causes many diseases as typhoid.
3. The ability of the atom in a covalent molecule to attract the electrons of the chemical bond towards itself.
4. Replacing part by part, the wood material of the trees by silica to form petrified fossils.
5. The continuous increase in the temperature of the Earth's near-surface air.
6. The region between stratosphere and mesosphere at which the temperature remains constant.
7. A famous extinct animal in ancient periods.

B Choose the odd word out :

1. ${}^2\text{He}$ / ${}^{10}\text{Ne}$ / ${}^{18}\text{Ar}$ / ${}^{11}\text{Na}$
2. Dodo bird / Quagga / Papyrus plant / Mammoth.
3. Cast / Fossil of a complete body / Fossil record / Petrified fossils.

C Examine the opposite figure, then answer :

1. What is the name of this device ?
2. Label the numbers (1) and (2) ?
3. Write down the balanced symbolic equation which represents the reaction.



19 Damietta Governorate

Damietta Educational Directorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. The atomic size is measured by, but the atmospheric pressure is measured by
2. The ultraviolet radiation has a effect and the infrared radiation has a effect.
3. Eating fish which contains high concentration of lead causes, but drinking water which contains high concentration of mercury leads to
4. The highest temperature layer in the atmosphere is and the least temperature one is
5. Basic oxides are oxides and their solutions turn the litmus solution into

B Mention the importance of each of the following :

1. Ozone layer.
2. Hofmann's voltameter.
3. Cobalt 60

C Locate the position of the following elements in the modern periodic table :
(With drawing)

1. $_{17}\text{Cl}$
2. $_{20}\text{Ca}$
3. $_{10}\text{Ne}$

Question 2

A Write the scientific term of the following :

1. The ability of the atom in a covalent molecule to attract the electrons of the chemical bond towards itself.
2. The halogen which exists in a liquid state.
3. The death of all members of certain species of living organisms.
4. A type of ultraviolet radiations that penetrates the ozone layer by a percentage 100%
5. Safe places established to protect endangered species in their natural environment.
6. The weight of air column of an atmospheric height above a unit area.

B Mention one example for each of the following :

1. An endangered bird.
2. A complete body fossil.
3. A metalloid element.
4. An extinct bird.
5. A polar compound.

C Calculate the height of a mountain if the temperature at its foot is (30°C) and at its top is (-6°C).

Question 3

A Choose the correct answer :

1. The degree ozone layer is measured by a unit called
a. km. b. dobson. c. nanometre. d. mm^3
2. Fossils are often found in rocks.
a. metamorphic b. volcanic c. sedimentary d. igneous
3. The coldest atmospheric layer is
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
4. The form positive ions during chemical reactions.
a. noble gases b. nonmetals c. alkali metals d. halogens
5. react very instantly with water and hydrogen gas evolves.
a. K and Na b. Cu and Ag c. Zn and Fe d. Ca and Mg

B Write the balanced chemical equations which express the following reactions :

1. Magnesium with dil. hydrochloric acid.
2. Sodium with water.
3. Bromine with potassium iodide.

C Mention the harms of :

1. Storing water in plastic bottles of mineral water.
2. Melting the polar ice.
3. Overuse of freon.

Question 4**A** Give reasons for :

1. The lower part of stratosphere is suitable for flying aeroplanes.
2. Petrified woods are considered from fossils although they look like rocks.
3. Dissolving of sugar in water although it is among covalent compounds.
4. Occurrence of aurora phenomenon.

B What is meant by ... ?

1. Fossils.
2. Chemical activity series.
3. Greenhouse effect.

C Correct the underlined words :

1. Elements of d-block contain lanthanides.
2. Quagga is the most famous extinct animal in the old times.
3. Meteors burn in thermosphere layer.

20**Kafr El-Sheikh Governorate**

Educational Directorate

Answer the following questions :

Question 1**A** Choose the correct answer :

1. is a polar compound.
 - a. Petrol
 - b. Water
 - c. Alcohol
2. The main energy levels discovered by Bohr in the atom are
 - a. 7
 - b. 5
 - c. 3
3. The first layer in the atmospheric envelope above the sea level is
 - a. mesosphere.
 - b. stratosphere.
 - c. troposphere.
4. Mammoth was preserved in
 - a. resinous matter.
 - b. snow.
 - c. mud sediments.

B Write the scientific term of each of the following :

1. One of components of the atmosphere that its percentage increased in recent years causing the greenhouse phenomenon.

2. Safe places established to protect endangered species in the natural places.
3. A table in which the elements are arranged according to their atomic numbers and the way of filling the energy sublevels with electrons.

Question 2

A Give reason for each of the following :

1. Petrified woods are considered from fossils although they look like rocks.
2. The atomic size increases in the same group by increasing the atomic number.
3. Governments put laws for regulating the process of hunting of some living organisms.
4. Halogens don't exist individually in nature, but they exist in chemical compounds.

B Give a brief definition for each of the following :

1. Chemical activity series.
2. Exosphere.
3. Fossils.

Question 3

A Mention the effects resulting from the following :

1. Putting in the freezer of the fridge a closed bottle completely filled with water.
2. Extinction of one species or more from a simple balanced ecosystem.
3. Sediments fill a snail shell cavities, then later it solidifies and the shell is removed.
4. On going above sea level.

B Put (✓) in front of the right statements and (✗) in front of the wrong statements :

1. Nonmetal oxides dissolve in water forming acidic solutions. ()
2. Meteors burn in the mesosphere. ()
3. Silicon slides are good conductors of electricity. ()

Question 4

A Illustrate with chemical equations only the reactions of the following :

1. The formation of ozone by the effect of ultraviolet radiation.
2. Forming a salt of an acid when dilute acid is added to a metal.
3. Decomposition of acidified water by electricity into two elements hydrogen and oxygen.

B Complete the following statements :

1. is the layer in the atmospheric envelope which contains most of the ozone which is located between 20 to km above sea level.
2. Alkali metals are good conductors of and

21

El-Behiera Governorate

Bani El-Delengate Official School

Answer the following questions :

Question

1

A Choose the correct answer :

1. Satellites orbit in layer.
a. stratosphere b. exosphere c. mesosphere d. thermosphere
2. Ozone degree is measured by a unit called
a. km. b. millibar. c. dobson. d. nanometre.
3. Which of the following fossils indicates that the environment, where they lived was a hot and rainy tropical environment ?
a. Nummulites fossils. b. Ferns fossils.
c. Coral fossils. d. Archaeopteryx fossils.
4. All of the following are ozone pollutants except
a. methyl bromide gas. b. CO₂ c. halons. d. CFC_s

B Mention the harms of :

1. Drinking water contains high concentration of mercury.
2. Global warming phenomenon. (one harm)

C Mention one use for each of the following :

1. Liquefied nitrogen. 2. Coral fossils. 3. Van-Allen belts.

Question

2

Ⓐ From the following diagram which represents a part of the periodic table, answer the following questions :

[illegible]

[NB. The letters in the table don't represent the actual symbols of the elements]

1. Arrange the elements B, A, R, L descendingly according to the atomic size.
2. Complete the following :
The shaded part represents elements.
3. Write the letter(s) of the element(s) which :
(a) Belong(s) to d-block. (b) is/are from inert gases.
(c) Belong(s) to alkali metals.

B Write the scientific term of each of the following :

1. It is a series in which metals are arranged in a descending order according to their chemical activity.
2. It is addition of any substance to the water which causes continuous gradual change in water properties affecting the health and the life of living creatures.
3. A type of ultraviolet radiations that is absorbed (95%) by the ozone layer.
4. It is the continuous decrease without compensation in the number of certain species of living organisms until all members of species die out.
5. It is the solidified resinous matter which was secreted by pine trees in old geologic ages.

C Compare between each of the following :

1. Sodium ($_{11}\text{Na}$) and calcium ($_{20}\text{Ca}$).
(According to : the position in the modern periodic table and the reaction with water)
2. Remains and mold. (according to : definition and example).

Question 3**A Complete the following sentences :**

1. The height of atmospheric envelope above sea level iskm, while the normal atmospheric pressure equals millibar.
2. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots\dots\dots$
3. $\text{Br}_2 + 2\text{KI} \longrightarrow \dots\dots\dots + \dots\dots\dots$
4. Moseley arranged the elements ascendingly according to , while Mendeleev arranged the elements ascendingly according to
5. The crystal of ice has shape.

B Choose the odd word out, and find the relation between the others :

1. $_{9}\text{F} / _{6}\text{C} / _{35}\text{Br} / _{17}\text{Cl}$
2. Dodo bird / Ibis bird / Bald eagle / Panda bear.

Question 4**A Correct the underlined words in the following statements :**

1. Ammonites fossils are found in limestone rocks which form El-Mokattam mountain.
2. Infrared radiation has a chemical effect.
3. Hofmann's voltameter used in thermal analysis of acidified water.

B Calculate the temperature at the top of a mountain, which its height is 4 km. If the temperature at the base of that mountain is 24°C.**C Give reasons for :**

1. Water has high boiling point.
2. Magnesium oxide is a basic oxide.
3. Ozone layer is formed in stratosphere.
4. Complicated ecosystem is not affected much by the absence of one of its species.

22

El-Fayoum Governorate

Educational Directorate

Answer the following questions :

Question

1

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly according to
2. The highest temperature layer in the atmosphere is and the least temperature one is
3. Dodo bird is bird, while bald eagle is bird.
4. The scientist discovered the main energy levels in the atom.
5. There are bonds between water molecules.

B What is meant by ... ?

1. Fossils.
2. Semi-metals.
3. Atmospheric pressure.

C Locate the position of the following elements in the modern periodic table :

1. $_{10}^{Ne}$
2. $_{19}^{K}$

Question

2

A Correct the underlined words in the following statements :

1. Transition elements start to appear in the first period.
2. Increasing O_2 concentration in the atmosphere produces the global warming phenomenon.
3. Meteors burn in stratosphere.
4. Mammoth is an example of microfossils.
5. Sodium oxide is from acidic oxides.
6. Wadi El-Hetan protectorate is the first established natural protectorate in Egypt.

B What is the importance of ... ?

1. Ozone layer.
2. Index fossils.
3. Cobalt 60

C Mention one difference between : Cast and mold.

Question

3

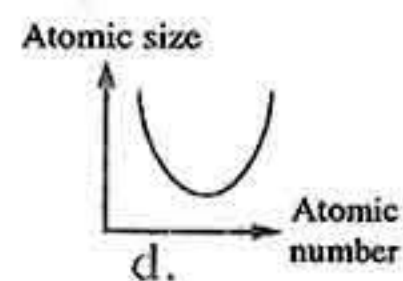
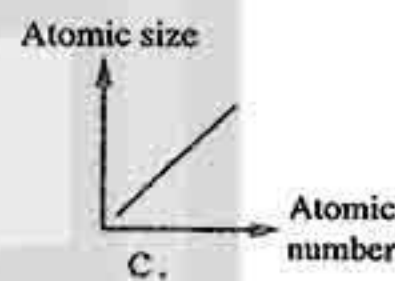
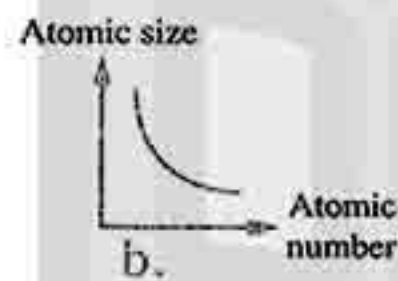
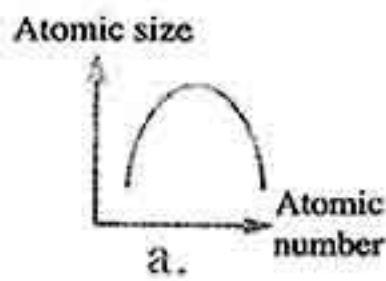
A Write the scientific term of each of the following statements :

1. The ability of the atom in a covalent molecule to attract the electrons of the chemical bond towards itself.

2. A type of water pollution is originated from discharging of factories wastes and sewage in canals, rivers and seas.
3. The continuous decrease in numbers of species members without compensation until they all die out.
4. Metals are arranged descendingly according to their chemical activity.
5. A charged layer reflects radio waves.

Choose the correct answer :

1. is located between stratosphere and mesosphere.
a. Tropopause b. Stratopause c. Mesopause d. Thermopause
2. Graph represents the graduation of the atomic size in the third period.



3. is one of the most important causes of extinction in the recent ages.
a. Volcanic eruption b. Falling of icebergs
c. Falling of meteorites d. Overhunting and environmental pollution
4. Fossils are often found in rocks.
a. metamorphic b. sedimentary c. volcanic d. igneous
5. All of the following are from the properties of water except
a. it has a neutral effect on both of litmus papers.
b. it is a polar compound.
c. its volume increases by freezing. d. it decomposes by heat into its elements.

What are the results of ... ?

1. Sodium isn't kept under kerosene or paraffin.
2. Storing water in plastic bottles of mineral water.

Question 4

A Give reasons for :

1. Van-Allen belts play an important role in atmosphere.
2. Although sugar is a covalent compound, it dissolves in water.
3. Petrified woods are considered from fossils although they look like rocks.

B Write the balanced chemical equations which express the following reactions :

1. The reaction between bromine and potassium iodide.
2. Magnesium with dil. hydrochloric acid.

- C** Calculate the height of a mountain if the temperature at its foot is 20°C and at its top is (-6°C) .
- D** Study the following figure which represents a section of the periodic table, then answer :

																	N
A											I	K		L			
	C									H						O	
B			D		E	F	G		J		M						

[NB. The letters in the table don't represent the actual symbols of the elements]

Write the symbol(s) which indicate(s) :

- a. Halogens.
c. The most active metal.
- b. Inert gases.
d. Transition elements.

23 El-Menia Governorate

St. Mark and El-Tawfik School

Answer the following questions :

Question 1

A Choose the correct answer :

1. The scientist had discovered the main energy levels.
a. Moseley b. Bohr c. Hofmann d. Mendeleev
2. The atomic number of an element that exists in group (7A) and period (2) is
a. 12 b. 7 c. 9 d. 17
3. Each period in the periodic table starts with a/an
a. metal. b. metalloid. c. nonmetal. d. inert gas.
4. is considered from halogens.
a. Sodium b. Chlorine c. Helium d. Calcium
5. Ozone layer is found in layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere

B Write the balanced chemical equations that illustrate the following reactions :

1. Reaction of sodium with water.
2. Reaction of magnesium with dilute hydrochloric acid.
3. Reaction of carbon dioxide gas with water.
4. Reaction of chlorine gas with potassium bromide solution.

Question 2

A Write the scientific term of each of the following :

1. The ability of the atom in a covalent molecule to attract the electrons of the chemical bond towards itself.
2. The apparatus which is used in water electrolysis.
3. The weight of air column of an atmospheric height on a unit area.
4. A unit used for measuring ozone degree.
5. The death of all members of species of living organisms.

B Problem : Calculate the height of a mountain if the temperature at its base is (30°C) and at its top is (-9°C).

Question 3

A Complete the following statements :

1. The modern periodic table consists of horizontal periods and vertical groups.
2. By increasing the atomic number in groups, the atomic size due to the increase in the number of
3. and are examples of polar compounds.
4. The valency of alkali metal elements is
5. Mixing animal and human wastes with water causes water pollution, while dumping atomic wastes in oceans causes water pollution.
6. The highest temperature layer in the atmosphere is and the lowest temperature layer in the atmosphere is
7. and are endangered species.

B What's the importance of ... ?

1. Van-Allen belts.
2. Ozone layer.
3. Cobalt 60

C Give reasons for the following :

1. The lower part of stratosphere is suitable for flying aeroplanes.
2. Liquefied nitrogen is used in preservation of the eye cornea.

Question 4

A Choose from column (B) what suits it in column (A) :

(A) Harms	(B) Pollutant
1. Death of brain cells.	a. lead.
2. Liver cancer.	b. sodium.
3. Blindness.	c. mercury.
	d. arsenic.

B What's meant by each of the following ... ?

1. Fossils.
2. Metalloids.
3. Aurora phenomenon.

C What will happen in each of the following cases ... ?

1. Storing water in plastic bottles of mineral water.
2. The overuse of freon.

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Sohag Governorate

Educational Directorate

Answer the following questions :

Question

1

A Complete the following statements :

1. The modern periodic table consists of periods and the period number represents the number of
2. Pure water boils at and freezes at
3. Most weather phenomena occur in layer, while satellites swim through the
4. From the reasons of recent extinction are and

B Mention one difference between :

1. Acidic oxide and basic oxide (dissolving in water).
2. Simple ecosystem and complicated ecosystem (example only).

C If the temperature at the sea level is 20.6°C . Find the temperature at the top of a mountain of height 2 km above Earth's surface.

Question

2

A Give reasons for :

1. Cobalt 60 is used in food preservation.
2. Petrified woods are considered as fossils although they look like rocks.
3. Elements of the same group have similar properties.

B What happens when ... ?

1. The overuse of freon.
2. Adding dil. HCl to a piece of carbon.
3. Decrease of water temperature less than 4°C .

C Mention the importance of :

1. Van-Allen belts.
2. Altimeter.

Question 3

A Choose the correct answer :

- The scientist who discovered the main energy levels is
a. Mendeleev. b. Bohr. c. Rutherford.
- Complete body fossils of insects are found preserved in
a. amber. b. snow. c. ocean.
- All of the following gases are greenhouse gases except
a. CO_2 b. O_2 c. CH_4
- The density of ice is the density of water.
a. less than b. more than c. equal to
- is considered from halogens.
a. Sodium b. Chlorine c. Helium
- The normal atmospheric pressure at the sea level equals millibar.
a. 1013.25 b. 76 c. 1.013

B Write the chemical equations which represent the following reactions :

- Reaction of sodium with water.
- Reaction between chlorine gas and potassium bromide.
- Carbon dioxide with water.

C Calculate the atomic number of :

- Element (X) is located in the 3rd period and group (2A).
- Element (Y) is located in the 1st period and group (1A).

Question 4

A Write the scientific term :

- Elements have the properties of metals and nonmetals.
- A charged layer reflects radio waves.
- A bond that exists between water molecules.
- A unit used for measuring ozone degree.
- An apparatus used in electrolysis of water.
- Safe areas established to protect endangered species.

B Correct the underlined words :

- Fluorine is the only liquid halogen.
- Chemical pollution of water causes many diseases as typhoid and hepatitis.
- Meteors burn in stratosphere.
- Archaeopteryx links between reptiles and mammals.
- Sodium chloride is from polar compounds.

C Locate the position of the following elements in the modern periodic table :

- $_{10}\text{Ne}$ 2. $_{19}\text{K}$ 3. $_{16}\text{S}$

25

Qena Governorate

Educational Zone

Answer the following questions :

Question

1

A Complete the following statements :

1. In the modern periodic table, the elements are arranged according to and
2. The strongest metallic element is found in group
3. The thickness of mesosphere layer is about km.
4. and are considered from ozone layer pollutants.
5. The normal atmospheric pressure at the sea level equals mb.
6. Fossils always exist in the rocks.

B Write a definition for the following :

1. Extinction.
2. Electronegativity.
3. Atmospheric pressure.

Question

2

A Choose the correct answer :

1. Which of the following fossils play an important role in petroleum exploration ?
a. Foraminifera and radiolaria. b. Nummulites and ammonites.
c. Foraminifera and trilobite.
2. The is/are used in preservation of agricultural crops.
a. methyl bromide gas b. halons c. nitrogen oxide
3. The coldest atmospheric layer is
a. troposphere. b. thermosphere. c. mesosphere.
4. The elements of group (7A) are known as
a. alkali metals. b. halogens. c. alkaline earth metals.
5. There is bonds between water molecules.
a. ionic b. hydrogen c. covalent
6. Metal oxides are oxides.
a. acidic b. basic c. amphoteric
7. Which of the following fossils indicates that the environment, where they lived was clear warm and shallow seas ?
a. Nummulites fossils. b. Ferns fossils. c. Coral fossils.

Part 3

B Give a reason for :

1. Occurrence of extinction in the recent ages.
2. Sodium is kept under the surface of kerosene.

Question 3

A Write the scientific term :

1. The horizontal rows in the modern periodic table.
2. The radioactive element which is used in food preservation.
3. The decrease in the thickness of ozone layer.
4. The separating region between troposphere and stratosphere.
5. The gas which is collected at the cathode in water electrolysis.
6. The semi-conductor element which is used in electronics industry.

B Locate the position of the following elements in the modern periodic table :

1. $_{20}\text{Ca}$ 2. $_{17}\text{Cl}$ 3. $_5\text{B}$ 4. $_{18}\text{Ar}$

Question 4

A Put (✓) or (✗) in front of the following :

1. The air moves vertically in the bottom part of the stratosphere. ()
2. Alkali metals locate in group (2A). ()
3. Ice crystals have pentagonal shapes. ()
4. In the period as the atomic number increases, the atomic size increases. ()
5. The index fossil indicates the age of the sedimentary rocks. ()
6. The simple ecosystem affected strongly by the absence of one species from its members. ()

B Compare between :

The stratosphere layer and the mesosphere layer (in view of pressure and temperature).

1 Cairo Governorate

New Cairo Educational Zone
Manor House School

Answer the following questions :

Question 1

A Complete the following :

1. is an example for metalloids.
2. is from the recent extinct animals.
3. are curved lines that join parts of equal atmospheric pressure.

B Write the scientific term :

1. The nonmetal element which is used in preservation of eye cornea.
2. The hottest layer in the atmospheric air.

© What is the thickness of troposphere layer ? if the temperature at sea level is 24.5°C
Find the temperature at the highest point.

Question 2

A Choose the correct answer :

- The atmospheric pressure is measured in unit.
 - millibar
 - Dobson
 - nanometer
- Meteors are formed in
 - mesosphere.
 - stratosphere.
 - troposphere.

B Give reasons for :

The atomic size of elements in the same period decreases as their atomic number increases.

C Correct the underlined words :

1. Ozone gas is found in **troposphere** layer.
2. Quagga is from **endangered** species.
3. Inert gases are **active** gases.

Question 3

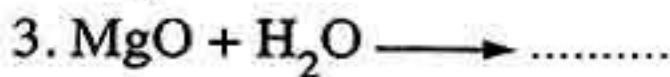
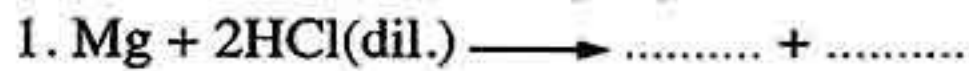
A What is meant by ... ?

1. Polar compounds. 2. Water pollution. 3. Protectorates.

B Compare between :

- Troposphere and stratosphere layers.

C Complete the following equations :



Question 4

A What happens when ... ?

1. The ratio of mercury increases in water.
2. Hydrogen molecule combines with oxygen atom.

B What are the uses of ... ?

1. Sodium in liquid state.
2. Aneroid.
3. Cobalt 60

C Write the scientific term :

1. A series in which metals are arranged in a descending order according to their chemical activity.
2. The apparatus which is used in water electrolysis.
3. A charged layer reflects radio waves.

2

Cairo Governorate

El Nozha Educational Administration
St. Fatima Lang. School

Answer the following questions :

Question 1

A Choose the correct answer :

1. The scientist had discovered the main energy levels.
a. Moseley b. Bohr c. Hofmann d. Moustafa
2. The modern periodic table consists of horizontal periods.
a. 7 b. 10 c. 14 d. 18
3. Atmospheric pressure is the of air column of an atmospheric height on a unit area.
a. mass b. volume c. weight d. density
4. Ozone layer is found in layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere
5. is an example of microfossils.
a. Mammoth b. Ferns c. Foraminifera d. Archaeopteryx

B Give reasons for :

1. Sodium is kept under the surface of kerosene.
2. Liquefied nitrogen is used in preservation of cornea of the eye.
3. The continuity of ozone layer erosion.

C What is meant by greenhouse gases ?

PART 2

Question 2

A Put (✓) or (x) and correct the wrong ones :

1. The elements with the same physical and chemical properties have been put in horizontal periods. ()
2. Each period ends with a nonmetal. ()
3. Papyrus is considered an extinct plant. ()
4. Ultraviolet radiation splits the ozone molecule into two atoms. ()
5. Mesosphere is the coldest layer in the atmospheric envelope. ()

B Compare between the following :

- Mesosphere and thermosphere layers in term of (temperature and air pressure).

C What happens when ... ?

- Putting red and blue litmus papers in pure water.

Question 3

A Write the scientific term :

1. Elements which start to appear in fourth period.
2. They are indicated by the letters K, L, M, N, O, P and Q.
3. Elements which have the properties of metals and nonmetals.
4. A kind of rays that causes harmful effects to human.
5. Remains of old organisms that lived in the past for a certain period and then became extinct.

B Mention one difference between of the following :

1. Fluorine molecule and helium molecule.
2. Trace and remains.

- C
1. Mention the negative effects of global warming phenomenon.
 2. How do we keep water from pollution ?

Question 4

A Complete the following statements :

1. Sodium oxide is from oxides.
2. and are examples of polar compounds.
3. radiation is characterized by a great heat effect.
4. Ozone layer contains a suitable amount of gas.

B Show the electronic configuration of : $_{17}\text{Cl}$ and determine its location in the periodic table.

C Write the chemical equations :

1. Reaction of bromine with potassium.
2. Reaction of sodium with water.
3. Formation of ozone gas.

D Give a reason for : The boiling point of water is high.

3

Cairo Governorate

Heliopolis Educational Admin.
St. Joseph's School

Answer the following questions :

Question 1

A Choose the correct answer :

- The number of electrons in the outermost energy level in $_{20}\text{Ca}$ is
a. 1 b. 2 c. 3 d. 4
- The number of period in $_{10}\text{Ne}$ atom is
a. 1 b. 2 c. 3 d. 4

B Give reason for each of the following :

- The simple ecosystem is severely affected by the absence of one type of species.
- Halogens exist in chemical compounds and not individually in nature.

Question 2

A Write the scientific term :

- Elements that have both properties of metals and nonmetals.
- A pollution originated from mixing of animals and human wastes with water.

B What happens when ... ?

- The concentration of greenhouse gases increases in the atmosphere.

Question 3

A Correct the underlined words :

- The distribution of the charged ions extends 700 kms above the sea level is known as the troposphere.
- Basic oxides dissolve in water forming acids.

B Write the proper group and period in the periodic table for each of the following :

- $_{19}\text{K}$
- $_{3}\text{Li}$
- $_{11}\text{Na}$
- $_{13}\text{Al}$

C Define each of the following :

- Petrification.
- Electronegativity.

Question 4

A Why is the radioactive Cobalt 60 used in food preservation ?

B Complete the following symbolic equations :

- + $2\text{HCl}(\text{dil.}) \longrightarrow \text{MgCl}_2 + \text{.....}$
- + $2\text{KI} \longrightarrow 2\text{KBr} + \text{.....}$

C Explain each of the following :

- The Mammoth fossil was found to be completely preserved.
- The density of water in its solid state is lower than in its liquid state.

Answer the following questions :

Question 1

A Complete the following sentences :

1. Mendeleev arranged the elements according to , while Moseley arranged the elements according to
2. There are bonds between water molecules.
3. During the formation of ozone layer, oxygen molecule absorbs , which breaks the bond between the two atoms.
4. Nonmetal oxide dissolves in water giving , which turns litmus paper into
5. The highest temperature layer in the atmosphere is and the least temperature one is

B What is the importance of ... ?

- | | | |
|--------------------------|---------------------|---------------|
| 1. Hofmann's voltameter. | 2. Van-Allen belts. | 3. Altimeter. |
|--------------------------|---------------------|---------------|

C Two elements $^{35}_{17}\text{Y}$ and $^{39}_{19}\text{X}$, find :

- | | | |
|----------------------------------|----------------------|-----------------------|
| 1. The electronic configuration. | 2. The group number. | 3. The period number. |
|----------------------------------|----------------------|-----------------------|

Question 2

A Write the scientific term :

1. Gradual decrease in the number of living organisms without compensation until all die out.
2. A liquid metal acts as a heat conductor in nuclear reactors for generating electricity.
3. The traces and remains of old living organisms which are preserved in the sedimentary rocks.
4. The ability of covalent molecule to attract electrons in chemical bond.
5. The elements that have both properties of metals and nonmetals.
6. A phenomenon due to increase the percentage of CO_2 gas and leads to increase the temperature of atmosphere.

B Give reasons for :

1. Sodium and potassium should be kept under kerosene.
2. Pilots prefer to fly their planes at the lower part of stratosphere layer.
3. The elements of the same group have similar properties.
4. Pure water doesn't affect litmus paper.

C What happens if ... ?

1. Dissolving magnesium oxide in water (write the equation).
2. Increasing the ratio of nitrogen oxide in the atmosphere.
3. Drinking water polluted with mercury.

Question 3

A Choose the correct answer :

1. All of the following metals react with water except
a. potassium. b. copper. c. sodium. d. magnesium.
2. The unit of measuring atmospheric pressure is
a. Dobson. b. bar. c. centimeter. d. kilogram.
3. Meteors are found in
a. mesosphere. b. ionosphere. c. exosphere. d. stratosphere.
4. All of the following elements are Halogens except
a. fluorine. b. nitrogen. c. bromine. d. chlorine.

B What is meant by ... ?

1. Atmospheric pressure.
2. Polar compounds.

C Mention one example of :

1. Greenhouse gases.
2. Basic oxides.
3. The strongest metallic element in group (1A).

Question 4

A Correct the underlined words :

1. Each period ends with a nonmetal.
2. Chemical pollution of water causes many diseases as typhoid and hepatitis.
3. Infrared radiation has a chemical effect.
4. Panda bear is considered from extinct species.
5. Ozone layer is measured in a unit called nanometer.

B Put (✓) or (✗) and correct the wrong statements :

1. Ozone molecule consists of three hydrogen atoms. ()
2. Halogens are monovalent metals. ()
3. The density of air increases as we go up. ()

C Compare between :

1. The metallic property in the group and in the period.
2. Simple ecosystem and complicated ecosystem. (definition only)

5

Cairo Governorate

Abdeen Educational Directorate
Virtue and Science

Answer the following questions :

Question 1

A Complete :

1. Ionosphere is surrounded by two magnetic belts known as belts that play an important role in
2. Among the pollutants of ozone layer are compounds that are used in air conditioning sets and compounds that are used in fire extinguishers.
3. is an alkali metal which lies in period three and its atomic number is
4. The thickness of ozone layer is about mm or equals Dobson under STP.
5. Halogen molecules are molecules as their molecules consist of atoms.

B State using equations :

1. How to obtain Br_2 from KBr .
2. The role of UV radiation in ozone formation.

Explain :

1. Hydrogen bond is responsible for the abnormal properties of water.
2. Importance of fossils in life evolution.

Question 2

A Give reasons for :

1. Amber is considered a suitable medium for the formation of complete bodies' fossils.
2. Troposphere layer regulates the Earth's temperature.
3. Elements of the same group have similar properties.

B Choose the correct answer :

1. The number of negative electrons in the atom in its normal state equals
 - a. the number of protons.
 - b. the number of neutrons.
 - c. twice the number of protons.
 - d. half the number of neutrons.
2. Greenhouse effect explains
 - a. erosion of the ozone layer.
 - b. global warming.
 - c. a new way of agriculture.
 - d. water evaporation.
3. When sodium reacts with water, gas evolves.
 - a. O_2
 - b. CO_2
 - c. H_2
 - d. N_2

© What does this number indicate 16 km ?

Question 3

A Write the scientific term :

1. A phenomenon that appears as brightly colored light curtains seen from both the poles of the Earth.
2. Different forms of nuclei of the same element having the same atomic number but different in the atomic weights.
3. A kind of rays with wavelength 280 : 315 nm.

B Compare between :

1. The simple ecosystem and the complicated ecosystem.
2. Dodo bird and ibis bird.
3. Magnesium oxide and sulphur oxide.

C Awareness about the importance of protecting natural life increased after great harmful consequences that have appeared since the mid 20th century. Explain three ways to protect the endangered species.

Question 4

A Correct without changing the underlined phrases :

1. By increasing the atomic number within a period the metallic property increases.
2. Liquefied nitrogen is used in food preservation.

B Mention one example for :

1. A petrified fossil.
2. A natural protectorate found in South Sinai in Egypt.
3. An alkali metal that is kept under the surface of paraffin oil only.

C What happens when ... ?

1. Adding the purple sunflower solution to a jar has a piece of burning coal.
2. Dissolving potassium in water.
3. The pollution of water with animals and human wastes.

6

Cairo Governorate

El Maadi Educational Department
Manarat El Maadi Language School

Answer the following questions :

Question 1

A Write the scientific term :

1. The weak electrostatic attraction between water molecules.
2. The ability of the atom in covalent molecule to attract the chemical bond electrons to it.
3. The vertical column in Mendeleev's table.
4. The traces and remains of old living organisms which are preserved in sedimentary rocks.
5. The hottest atmospheric layer.
6. A unit used for measuring ozone degree.

PART 2

B Give an example for :

1. A metalloid.
2. An acidic oxide.
3. A substance has bad effect on ozone layer.
4. A water pollutant causes damage of brain cells.

Question 2

A Choose :

1. The transitional elements start to appear from period
 - a. 2
 - b. 3
 - c. 4
 - d. 5
2. Electronic configuration of the ions of all the following is similar to that of $_{18}\text{Ar}$ except
 - a. $_{15}\text{P}$
 - b. $_{16}\text{S}$
 - c. $_{11}\text{Na}$
 - d. $_{17}\text{Cl}$
3. Water has effect on litmus paper.
 - a. basic
 - b. acidic
 - c. neutral
 - d. alkaline
4. The ozone layer found in layer.
 - a. troposphere
 - b. stratosphere
 - c. mesosphere
 - d. thermosphere

B Write the balanced chemical equation for the following :

1. Reaction of sodium with water.
2. Reaction of magnesium with dilute hydrochloric acid.
3. Reaction of carbon dioxide with water.
4. Two steps of ozone formation from oxygen by UV.

Question 3

A Write the importance of :

1. Halons.
2. Liquid nitrogen.
3. Overuse of freon.
4. Altimeter.

B Study the opposite figure which represents a section of the periodic table, then answer :

What is the symbols which indicate the :

1. Inert gases.
2. Alkali metals.
3. Halogens.

Indicate the :

A													I	K		L	N
	C										H						O
B			D			E	F	G		J			M				

Question 4

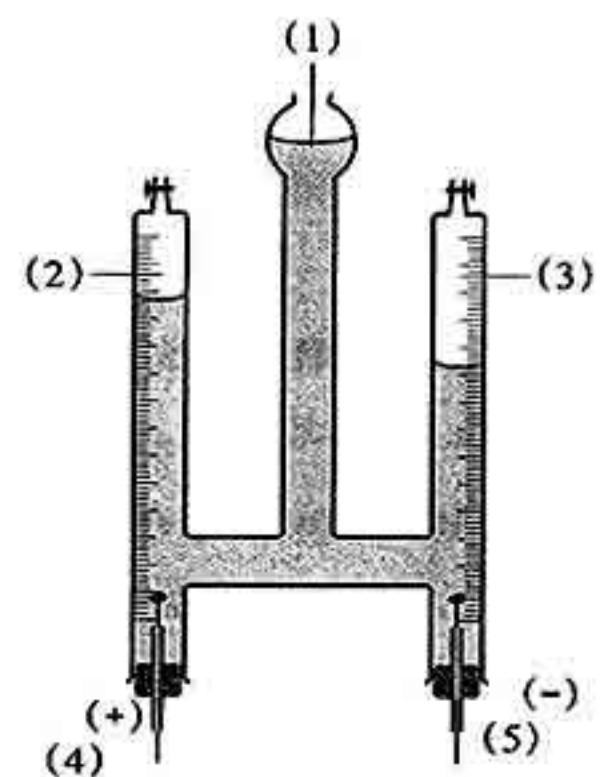
A Locate the position of the following elements in the modern periodic table :

1. ${}_{13}^{27}\text{Al}$ 2. ${}_{8}^{16}\text{O}$
3. ${}_{10}^{20}\text{Ne}$ 4. ${}_{20}^{40}\text{Ca}$

Workbook
Final Exams

B From the opposite figure, answer the following questions :

1. What is the name of this apparatus ?
2. Label the numbers (1) , (2) , (3) , (4) and (5) ?
3. Calculate the volume of the gas that evolves at the positive pole if the volume of the gas at the negative pole is 20 cm^3



7

Cairo Governorate

Shoubra Educational Zone
Good Shepherd School El-Attar

Answer the following questions :

Question 1

A Choose the correct answer :

1. Meteors burn in
a. mesosphere. b. ionosphere. c. stratosphere.
2. The number of groups in p-block is
a. 5 b. 6 c. 7
3. is located between stratosphere and mesosphere.
a. Tropopause b. Stratopause c. Mesopause
4. An example of complete body fossil is
a. mammoth. b. cast. c. mold.

B Correct the underlined words :

1. The polar compound is an ionic compound, the electronegativity difference between its elements is relatively high.
2. Panda bear is an example of extinct species.
3. Ultraviolet radiation has a thermal effect.
4. The mold is a copy of external shape of the shell.

C Write the balanced chemical equations which express the following :

1. Reaction of carbon dioxide with water.
2. Reaction of chlorine with potassium bromide.

Question 2

A Complete the following statements :

1. and are microfossils used in petroleum exploration.
2. The ecosystem is classified according to degree of effect into and

3. From advantages of Mandeleev table are and
4. Group (7A) is called, while group zero is called
5. Among pollutants of ozone layer are compounds used in air conditioning sets and compounds used in fire extinguishers.

B Mention one use for each of the following :

1. Cobalt 60.
2. Ionosphere.

C Mention one example of :

1. Greenhouse gases.

Question 3

A Write the suitable scientific term :

1. A metal doesn't react with water.
2. A protectorate characterized by presence of coral reefs and colored fish.
3. The weight of air column of an atmosphere height on a unit area.
4. A phenomenon appears as brightly colored light curtains at both poles of the Earth.
5. Fossils of organisms that lived in a short period of time in the past and become extinct.
6. A compound has a neutral effect on litmus paper.

B Compare between :

- Biological and chemical water pollution.

Question 4

A Give reasons for :

1. Elements of group (1A) are called alkali metals.
2. Formation of ozone layer in the stratosphere.
3. Bald eagle is called by this name.

B Problem : Calculate the temperature at the top of a mountain if the temperature at sea level is 10°C and its height is 10 km.

© Locate the position of the following elements in the modern periodic table :

1. ${}_{11}^{23}\text{Na}$ 2. ${}_1^1\text{H}$ 3. ${}_{10}^{20}\text{Ne}$

8

Giza Governorate

El-Sadat Language School

Answer the following questions :

Question 1

Complete :

1. The type of bond in the water molecule is , while the bond between water molecules is

- From greenhouse gases are and
- $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$
- Carbon dioxide gas is oxide, while magnesium oxide is oxide.
- Fossils are used in exploration and determining the age of

B Locate the position and type of the following elements in the modern periodic table :

- ${}_2\text{He}$
- ${}_{17}\text{Cl}$
- ${}_{11}\text{Na}$
- ${}_{20}\text{Ca}$

Question 2

A Write the scientific term of the following :

- A layer of atmosphere in which satellites float.
- The gas evolved at the cathode of Hufmann's voltameter.
- They are natural safe areas to protect the endangered species.
- A bright coloured light curtains are seen at two poles of Earth.

B Give reasons for :

- Limestone rocks of El-Mokattam's mountain contain nummulites fossils.
- Sodium and potassium are kept under kerosene surface.
- The lower part of stratosphere layer is suitable for flying planes.
- Liquefied nitrogen is used in preservation of cornea.

Question 3

A Calculate the height of a mountain if the temperature at its base is 25°C and at its top is $(-14)^\circ\text{C}$.

B Choose the correct answer :

- An example of microfossils is
a. mammoth. b. fern. c. radiolaria. d. archaeopteryx.
- The largest atomic size in these elements has atomic number
a. 7 b. 11 c. 9 d. 17
- All of the following are extinct species except
a. dodo bird. b. bald eagle. c. quagga. d. dinosaur.
- The coldest layer is layer.
a. exosphere b. troposphere c. stratosphere d. mesosphere

C Mention the importance of :

- Van-Allen belts.
- Cobalt 60.

Question 4

A Show by the symbolic equations only how is the ozone gas formed ?

B What is meant by ... ?

- Global warming.
- Fossils.
- Metalloids.

C Compare between simple ecosystem and complicated ecosystem. (two points).

Answer the following questions :

Question 1

A Complete the following statements :

1. The hottest layer in the atmosphere is, while the coldest layer is
2. From greenhouse gases are and
3. Archaeopteryx is a fossil that links between and
4. Ultraviolet rays have effect, while infrared rays have effect.

B What is meant by ... ?

1. Electronegativity.
2. Fossils.

Question 2

A Choose the correct answer :

1. All of the following are endangered species except
a. panda bear. b. bald eagle. c. quagga. d. rhinoceros.
2. The normal atmospheric pressure at the sea level equals mb.
a. 76 b. 1013.25 c. 1.013 d. 760
3. Luminous meteors are formed in layer.
a. ionosphere b. stratosphere c. exosphere d. mesosphere
4. Complete body fossils of insects are found preserved in
a. amber. b. snow. c. sedimentary rocks. d. ocean.

B Mention the function of :

1. Altimeter.
2. Hofmann's voltameter.
3. Cobalt 60.
4. Natural protectorate.

C Compare between :

1. Simple ecosystem and complicated ecosystem.
2. Basic oxide and acidic oxide.

Question 3

A Give reason for each of the following :

1. The lower part of stratosphere is a suitable for flying aeroplanes.
2. Elements of the same group have the same properties.
3. Group (1A) is called alkali metals.

B Mention the name of the scientist who :

1. Discovered that the atom has 7 energy levels.
2. Discovered that the nucleus has positive charges called protons.
3. Postulated that the thickness of ozone layer is 3 mm at STP.

C Write the balanced chemical equation which expresses the following reactions :

1. Putting a piece of sodium in water.
2. Burning magnesium ribbon in air.
3. Passing chlorine gas in potassium bromide solution.

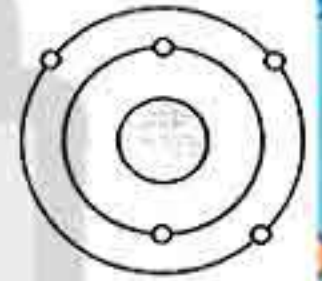
Question 4

A Write the scientific term :

1. Phenomenon that appear as a bright colours at the two poles.
2. The death of all members of species of living organisms.
3. Oxides that cause ozone hole and result from burning of fuel of concorde planes.
4. Thinning or losing parts of ozone layer.
5. Any change in the water properties that harm the human health or life.

B Study the opposite figure which explains the electronic configuration for an element in the modern periodic table. Calculate the atomic number of the element which follows this element in :

1. The same period.
2. The same group.



C Problem : Calculate the temperature at the top of a mountain if its height is 4 km and the temperature at its foot is 30°C.

10 Giza Governorate

Beu-lake Directorate
Dar El-Hanan L.S.

Answer the following questions :

Question 1

A Complete the following statements :

1. The scientist discovered the main energy levels around the nucleus, while the scientist discovered the positive protons inside the nucleus.
2. The coldest layer in atmosphere is but the hottest layer is
3. Archaeopteryx represents the link between and

B What is meant by ... ?

1. Chemical activity series.
2. Index fossil.

C Problem : Find the temperature at the top of a mountain, its height is 3 km if the temperature at sea level is 20°C.

Question 2

A The opposite figure represents a part of the modern periodic table :

1. What is the kind of (X - M - D) elements ?
2. What is the atomic no. of (B) element ?
3. What is the shaded area represent ?
4. Indicate :
 - a. The most active met
 - b. The largest size elen

[illegible]

B Give one example for :

1. A trace.
2. An ozone pollutant.
3. An extinct bird.
4. A greenhouse gas.

Question 3

A Give reasons for :

1. Liquefied nitrogen used in preserving eye cornea.
2. Rain, clouds and wind happen in troposphere.
3. Stop production of concorde (ultrasonic) planes.

B Compare between :

1. Mesosphere layer and stratosphere layer (in view of temperature and importance).
2. Simple ecosystem and complicated ecosystem.

Question 4

A Write the scientific term for the following statements :

1. The ability of the atom to attract the bond electrons to itself in the covalent compound.
2. An atmospheric layer in which the atmosphere is inserted into the outer space.
3. Replacing part by part the original wooden material by silica.
4. Safe places which protect the endangered species in their homeland.

B Write the chemical equation that indicates the following :

Reaction between magnesium with oxygen gas.

© Mention one importance for :

1. The two Van-Allen belts.

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Giza Governorate

El-Haram Educational Zone
Sakkara Language School

Answer the following questions :

Question 1

Complete the following :

1. Each period in the modern periodic table starts with and ends with
2. and are from the extinct animals in the old ages.
3. Elements of group (1A) are called metals.
4. Ultraviolet radiations have effect, while infrared radiations have effect.
5. Archaeopteryx represents the link between and

Question 2

A Write the scientific term :

1. The ability of the atom in the covalent molecule to attract the electrons of the chemical bond towards itself.
2. Two magnetic belts help in dispersing the harmful cosmic radiations away from the Earth.
3. Fossils of living organisms lived for a short period of time and in a wide geographical range and then became extinct.
4. The death of all members of a certain species of living organisms.
5. The block in the modern periodic table which contains series of lanthanides and actinides.
6. A layer of the atmospheric envelope in which the air moves vertically.

B Mention one difference between :

1. Mendeleev's periodic table and Moseley's periodic table.
2. Mesosphere and thermosphere.

Question 3

A Choose the correct answer :

1. The elements which occupy the middle block of the modern periodic table are called elements.

a. alkaline	b. inert	c. halogen	d. transition
-------------	----------	------------	---------------
2. There are bonds among the water molecules.

a. ionic	b. covalent	c. hydrogen	d. metallic
----------	-------------	-------------	-------------
3. The scientist who discovered the main energy levels is

a. Rutherford.	b. Moseley.	c. Bohr.	d. Mendeleev.
----------------	-------------	----------	---------------
4. All of the following are greenhouse gases except

a. CO ₂	b. O ₂	c. N ₂ O	d. CH ₄
--------------------	-------------------	---------------------	--------------------

PART 2

5. Fossils are found in rocks.

a. igneous

b. volcanic

c. sedimentary

d. metamorphic

6. All of the following are endangered species except

a. panda bear.

b. bald eagle.

c. quagga.

d. rhinoceros.

7. The height of the mountain where the temperature at its foot is 30°C and at its top is -9°C is km.

a. 6

b. 7

c. 8

d. 9

B Mention one importance for :

1. Liquefied nitrogen.

2. Altimeter.

3. Coral fossil.

Question 4

A Give reasons for :

1. Cesium is considered as the strongest metallic element.

2. Cobalt 60 is used in preservation of food.

3. Water has high boiling point.

4. Barium oxide is considered as a basic oxide.

5. The lower part of the stratosphere layer is suitable for flying airplanes.

B Mention one example for :

1. Microfossils.

2. Halogens.

C Locate the position of the following elements in the modern periodic table :

1. $_{17}\text{Cl}$

2. $_{20}\text{Ca}$

12 Giza Governorate

6 of October Directorate
Smart Vision Language School

Answer the following questions :

Question 1

A Complete :

1. From energy sublevels are s, p, d and

2. Elements of "d" block are called elements.

3. Water has effect on litmus solution.

4. From greenhouse gases are and

5. Bluestone protectorate preserves animal.

6. Alkali metals are located in group but inert gases are located in group in the modern periodic table.

B Calculate the temperature at the Earth's surface if the temperature at a height 2 km is 13°C .

Question 2

A Choose :

- From gaseous elements in group (7A) is
a. chlorine. b. iodine. c. fluorine. d. (a and c) together.
- When water freezes, its density
a. increases. b. decreases. c. doesn't change. d. rises up.
- From types of fossils is are
a. petrified fossils. b. mold. c. cast. d. all of them.
- From complete body fossils is
a. dinosaur. b. radiolaria. c. mammoth. d. worm.
- If hydrogen volume in water electrolysis is 20 cm^3 , so oxygen volume will be
a. 5 cm^3 b. 10 cm^3 c. 20 cm^3 d. 40 cm^3
- Halogens are called by this name because they react with forming salts.
a. acids b. bases c. water d. metals

B Mention one use for :

- Liquefied nitrogen.
- Aneroid.

Question 3

A Mention the scientific term :

- Continuous increase of the average temperature of the air near the surface of the Earth.
- An animal is considered midway between horse and zebra.
- A type of ultraviolet radiations that is absorbed mostly (95%) in the ozone layer.
- Fossils of organisms lived in the past for a short time then extinct.
- Safe places established to protect endangered species in their natural environment.
- The scientist who discovered that the nucleus of atom contains positive protons.
- The ability of atom in covalent molecule to attract the bond electrons to it.
- The death of all members of certain species of living organisms.

B Locate the position of $_{19}\text{K}$ in the modern periodic table.

Question 4

A Correct the underlined words :

- There are covalent bonds between water molecules.
- From endangered birds is quagga.
- Fossils are preserved in igneous rocks.
- Date of death of last individual of species is called fossils.
- From non-polar compounds is ammonia.
- The unit of measuring atomic radius is Dobson unit.

B Give reasons for :

- Pilots prefer to fly at the lower part of stratosphere.
- Dodo bird is an easy target for hunters.

13

Alexandria Governorate

Franciscan Sisters School
Ibrahimieh

Answer the following questions :

Question 1

A Write the scientific term :

1. The death of all members of species.
2. Elements that have both properties of metals and nonmetals.
3. The weight of air column of an atmosphere height on a unit area (1 cm^2 or 1 m^2).

B Mention one difference between each of the following :

1. Simple ecosystem and complicated ecosystem.
2. Stratosphere layer and mesosphere layer.

C Choose the correct answer :

1. The remains and traces of old living organisms preserved in sedimentary rocks is/are
a. extinction. b. the red list. c. fossils. d. solidification.
2. Metal oxides are oxides.
a. acidic b. basic c. amphoteric d. neutral
3. The charged cosmic radiations are dispersed in the layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere
4. Ozone gas is measured in a unit called
a. km. b. Dobson. c. millibar. d. mm^3

Question 2

A Write the symbolic chemical equations representing the following reactions :

1. Reaction of magnesium with oxygen then dissolution the product in water.
2. Reaction of chlorine with potassium bromide.
3. Dissolving carbon dioxide in water.

B Write the atomic number of the following elements :

1. Inert gas lies in the second period.
2. Halogen lies in the third period

C Find the temperature at the base of a mountain, if you know that the temperature at its top equals (-10°C) and its height equals (4 km).

Question 3

A What happens when ... ? And why ?

1. A piece of sodium is exposed to moist air.
2. Decreasing the water temperature less than 4°C .

B On electrolysis of a certain volume of acidified water, if the volume of evolved gas above the anode was 2.5 cm^3 :

1. Calculate the volume of the evolved gas above the cathode.
2. What is the name of the gas that evolves above the anode and above the cathode ?
3. Mention the name of the apparatus which is used in this process.

C Put (✓) or (✗) and correct the mistakes :

1. The covalent bond becomes ionic when the difference in electronegativity between the bonded atoms = zero. ()
2. All the atmospheric phenomena like rain, wind and clouds occur in the ionosphere. ()
3. The elements with the same physical and chemical properties have been put in vertical columns. ()

Question 4

A Give the scientific reasons for the following :

- Fossils have importance.

B Complete the following sentences :

1. Each period in the modern periodic table starts with and ends with
2. Sodium is kept under the surface of, so as not to react with
3. Satellites float in layer, while pilots prefer to fly in the lower part of layer.
4. Ultraviolet radiation has a effect, while infrared radiation has a effect.

C Mention an example for each of the following :

1. Endangered species.
2. A gaseous halogen.
3. A fluorochlorocarbon compound.

14 Alexandria Governorate

Saint Vincent De Paul School

Answer the following questions :

Question 1

A Choose the correct answer :

1. Mammoth fossil is an example of fossils.

a. cast	b. mold	c. petrified	d. complete body
---------	---------	--------------	------------------
2. Lanthanides are located in block.

a. (s)	b. (d)	c. (f)	d. (p)
--------	--------	--------	--------
3. Aluminium ($_{13}\text{Al}$) is located in

a. period 3.	b. period 2.	c. period 7.	d. period 5.
--------------	--------------	--------------	--------------

PART 2

4. Adding drops of to water during its electrolysis.

- | | |
|----------------------|----------------------|
| a. nitric acid | b. sulphuric acid |
| c. hydrochloric acid | c. no correct answer |

B Give reasons for :

1. Melting of ice of south and north poles.
2. Ammonia is considered a polar covalent compound.
3. The atomic size of $_{11}\text{Na}$ is greater than $_{17}\text{Cl}$.
4. The lower part of stratosphere is suitable for flying aeroplanes.

C If the temperature at the foot of a mountain is 40°C . Calculate the temperature at its top if the height of the mountain is 3 km.

Question 2

A Complete the following :

1. Ozone degree is measured in a unit called
2. is the weight of air column of an atmospheric height on a unit area.
3. A sticky matter secreted from the pine trees to form the fossil of
4. The scientist had discovered the energy levels.

B Compare between :

- | | |
|---------------------------|------------------------------------|
| 1. Altimeter and aneroid. | 2. Basic oxides and acidic oxides. |
|---------------------------|------------------------------------|

Question 3

A Write the scientific term :

1. Rays which are emitted from cobalt (60).
2. Elements have the symbol (B).
3. Two magnetic belts help in dispersing the harmful radiation away from the Earth.
4. Substitution of silica in place of wood without changing in the form.
5. Organic matter prevents alkali metals from reacting with moist air.

B Write the chemical equations which express the following :

1. Reaction of bromine with potassium iodide.
2. Electrolysis of water.
3. Reaction of magnesium with hydrochloric acid.

C Draw the bonds between the atoms and molecules in water.

Question 4

A What is meant by ... ?

- | | |
|-----------------------|-------------------------------|
| 1. Electronegativity. | 2. Aurora phenomenon. |
| 3. Metalloids. | 4. Global warming phenomenon. |

B Correct the underlined words :

1. Each period ends by a nonmetal element.
2. Halogens are monovalent metals.
3. Normal atmospheric pressure equals 76 millibar.
4. The halons are produced from supersonic airplanes.

15

Alexandria Governorate

East Educational Zone
Sidi Gaber Language School

Answer the following questions :

Question 1

A Give a scientific term for each of the following statements :

1. Safe areas established to protect endangered species in their homeland.
2. Ability of an atom to attract the electrons of a chemical bond.
3. Arrangement of elements in a descending order according to their chemical activity.
4. An atmospheric layer that contains 75% of the mass of atmospheric air and in which all weather phenomena occur.
5. Traces and remains of old living organisms that are preserved in sedimentary rocks.
6. A block in the periodic table that contains groups from (3A) to (7A).
7. Elements having the properties of metals and nonmetals.

B What would happen if ... ?

1. Ionosphere wasn't surrounded by two magnetic belts.
2. Methyl bromide was overused as an insecticide.

Question 2

A Complete the following sentences :

1. In the modern periodic table, the strongest lie in group (1A), while the strongest lie in group (7A).
2. Liquefied nitrogen is used to preserve , while liquid sodium is used in
3. Van-Allen belts cause the phenomenon which takes place in the two poles of
4. In water molecules, there are two bonds, the angle between them is
5. and are two gaseous halogens.
6. Archeopteryx represents the link between and
7. and are from the most dangerous pollutants of ozone layer.

B Give reason for each of the following :

1. Pilots prefer flying in the stratosphere layer.
2. Water shouldn't be used to put off a sodium fire. (Give a balanced chemical equation)

PART 2

Question 3

A Choose the correct answer :

1. An element ${}_{17}\text{X}$ is similar to
a. ${}_2\text{A}$ b. ${}_{19}\text{Z}$ c. ${}_9\text{L}$ d. ${}_7\text{Y}$
2. discovered that a nucleus contains positively charged protons.
a. Mendeleev b. Einstein c. Rutherford d. Bohr
3. Meteors are formed in layer.
a. mesosphere b. ionosphere c. stratosphere d. exosphere
4. All of the following are endangered species except
a. quagga. b. bald eagle. c. panda bear. d. ibis bird.
5. All of the following diseases are caused by biological pollution except
a. bilharzia. b. typhoid. c. hepatitis. d. cancer.
6. All of the following are greenhouse gases except
a. CH_4 b. N_2O c. O_2 d. CO_2
7. is a natural protectorate characterized by the presence of rare coral reefs and coloured fish.
a. Panda protectorate b. Ras Mohamed protectorate
c. Bluestone protectorate d. Wadi Hetan protectorate

B Complete and balance the following equations :

1. $\text{Mg} + \dots \xrightarrow{\text{dil.}} \text{MgCl}_2 + \text{H}_2 \uparrow$
2. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots$
3. $\text{Br}_2 + 2\text{KI} \longrightarrow \dots + \dots$

Question 4

A Correct the underlined word(s) :

1. Ice crystals have pentagonal shape.
2. Thermal pollution originates from leakage of radioactive substances from nuclear reactors.
3. Water has a basic effect on litmus paper.
4. Ferns fossils indicate that they lived in clear, warm and shallow seas.

B Calculate the height of a mountain given that the temperature at its base = 40°C and at its top = -12°C .

C Give two negative effects for global warming phenomenon.

D Locate the position of the following elements in the modern periodic table :

1. ${}^{40}_{20}\text{Ca}$
2. ${}^{27}_{13}\text{Al}$

16

El-Kalyoubia Governorate

Science Inspectorate

Answer the following questions :

Question 1

A Complete the following sentences :

1. $2\text{H}_2\text{O} \xrightarrow{\text{Electrolysis}}$ +
2. Lithium and sodium on the surface of water as their densities are than water density.
3. There are three types of ultraviolet rays, near ultraviolet rays, ultraviolet rays and ultraviolet rays.
4. The atmospheric envelope height from sea level is , while normal atmospheric pressure equals millibar.
5. + $\xrightarrow{\text{Dilute}}$ $\text{MgCl}_2 + \text{H}_2$

B Locate the position of the following elements in the modern periodic table :

1. $_{13}\text{Al}$
2. $_{10}\text{Ne}$
3. $_{17}\text{Cl}$

C Compare between the following :

Simple ecosystem and complicated ecosystem and mention examples.

Question 2

A Write the scientific term for each of the following sentences :

1. The traces and remains of the old living organisms which are preserved in sedimentary rocks.
2. The elements that have the properties of metals and nonmetals.
3. They are two belts surround the atmosphere from outside and help in scattering the harmful cosmic radiations come from the Sun.
4. Safe places that are specified to protect the endangered species in their natural environment.

B Give reasons for :

1. Water and ammonia are polar compounds.
2. Cobalt 60 is used in food preservation.
3. Ionosphere layer is important for radio stations.

C If the temperature at the foot of Everest mountain is 22.6°C , find the temperature at its top of a height 8862 m. above the Earth's surface.

Question 3

A Choose the correct answer :

1. Ice crystals have shape.
a. hexagonal b. square c. pentagonal d. triangular

PART 2

2. Each period in the modern periodic table starts with a/an
 a. semi-metallic element. b. nonmetallic element.
 c. inert gas. d. metallic element.
3. An example of microfossils is
 a. mammoth. b. ferns. c. foraminifera. d. archaeopteryx.
4. The important layer of the atmospheric envelope for man's life is called
 a. thermosphere. b. stratosphere. c. troposphere. d. mesosphere.

B What is the importance of the following ... ?

1. Liquefied nitrogen. 2. Altimeter.

C Put (✓) or (✗) and correct the wrong ones :

1. The main energy levels had discovered by Moseley. ()
 2. Water has an acidic effect on litmus paper. ()
 3. The most important greenhouse gases are CO_2 , CH_4 , N_2O , H_2O and CFCs. ()
 4. The measurement unit of the degree of ozone layer is bar. ()

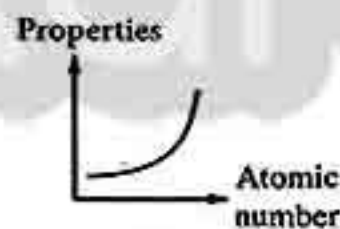
Question 4

A Correct the underlined words in the following statements :

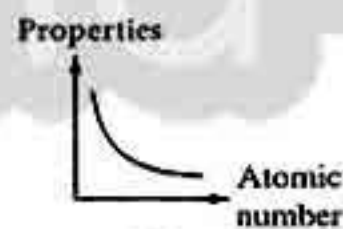
1. Dodo bird is endangered animal.
 2. Eating food containing high ratios of arsenic causes the death of brain cells.
 3. Bohr arranged the elements ascendingly according to their atomic weights.
 4. Meteors burn in thermosphere layer.
 5. If the metal lost one electron or more, it will become negative ion.

B Which of the following figures represents :

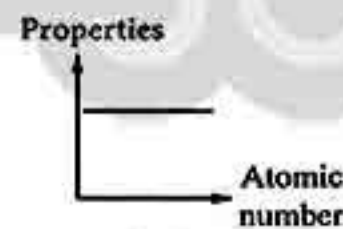
- The relation between the nonmetallic property and atomic number of elements of group (7A).



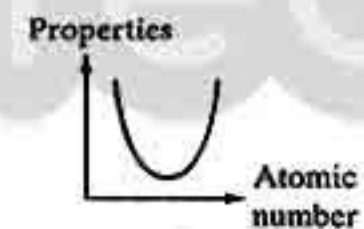
(a)



(b)



(c)



(d)

C Define the following :

1. Extinction. 2. The isobar.

17

El-Menofia Governorate

Science Inspectorate

Answer the following questions :

Question 1

A Complete the following :

1. The new number of zero group is, while that of group (5A) is

2. is used in food preservation, because it emits rays which prevent the production of microbical cells.
3. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$
4. The bond between oxygen atom and hydrogen atom in water molecule is, while bonds among water molecules are bonds.
5. There is fossils in the rocks which form El-Mokattam's mountain.

B Calculate the atomic number of the following elements :

1. A metallic element, its valency is divalent and locates in the third period.
2. A noble gas locates in the third period.
3. An element is located in the 1st period and group (1A).

C Problem :

If the temperature at the top of a mountain is -5°C and at a point in its middle is 8°C , calculate the height of the mountain and the temperature at its base.

Question 2

A Choose the correct answer :

1. The number of elements which exist in nature is
a. 99 b. 118 c. 24 d. 92
2. The elements which occupy the middle block (d) in the periodic table are called elements.
a. transition b. alkali c. alkaline Earth d. noble
3. If the sum of volumes of evolved gases at two poles of Hofmann's voltameter is 60 cm^3 so, the volume of oxygen gas and hydrogen gas is respectively.
a. 20 : 40 b. 40 : 20 c. 30 : 30 d. 15 : 45
4. The layer is much vaccumed layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere

B What is meant by ... ?

1. Atmospheric pressure.
2. Hydrogen bond.
3. Fossils.

C Choose the odd word out and write the scientific term for others :

1. Nitrogen oxides - Water vapour - Freon - Halons.
2. Quagga - Dodo bird - Dinosaur - Bald eagle.

Question 3

A Put (✓) or (✗), then correct the wrong ones :

1. Water has a neutral effect on litmus solution. ()
2. Magnesium and potassium are kept under the surface of kerosene. ()
3. Altimeter is an instrument used to determine the elevation of aeroplanes from sea level. ()
4. The archaeopteryx fossil is a kind of extinct elephants. ()
5. Papyrus is considered an extinct plant. ()

PART 2

B Give reasons for :

1. Elements of the same group have similar properties.
2. Barium oxide is considered a basic oxide.
3. Ionosphere is important for radio station.

C What is the importance of ... ?

1. Liquefied nitrogen.
2. Nummulite fossil.

Question 4

A Write the scientific term :

1. The halogen which exists in a solid state.
2. Two magnetic belts that help in scattering of harmful cosmic radiations away from the Earth.
3. Fossils of organisms that had lived for a short period of time in the past and had a wide geographic distribution.
4. The path which the energy takes when it is transported from a living organism to another one inside the environmental system.

B Compare between :

Group (1A) and group (7A) related to [name - valency - kind of formed ions].

C Mention an example for each of the following :

1. A trace fossil.
2. A non-polar compound.

18 El-Dakahlia Governorate

Educational Directorate

Answer the following questions :

Question 1

A Choose the correct answer :

1. Meteors are formed in
a. thermosphere. b. mesosphere. c. stratosphere. d. exosphere.
2. Which of the following belongs to the same group in the periodic table
a. Na, Li b. Na, Cu c. Na, Ne d. Na, C
3. The ozone is measured in a unit called
a. km b. °C c. Dobson d. millibar
4. Each period in the modern periodic table starts with element.
a. semi-metallic b. inert c. nonmetallic d. metallic
5. All of the following are greenhouse gases except
a. O₂ b. CO₂ c. N₂O d. CH₄

B Complete the following sentences :

1. The nanometer equals meter.
2. The ozone layer doesn't allow the passage of ultraviolet rays.
3. is non-flying and an extinct bird.
4. predicated the ability of discovering new elements, so he left spaces in his table.

Question 2

A Put (✓) or (✗) for each of the following statements :

1. There are fossils of complete insects kept in amber. ()
2. Sufficiency of plants on the Earth leads to the increase in temperature. ()
3. The troposphere layer is the suitable layer for flying planes. ()
4. The angle between covalent bonds in water molecule is 100° . ()

B Write the balanced chemical equations for each of the following :

1. Dissolving of magnesium oxide in water.
2. Reaction of carbon dioxide with water.

Question 3

A Give reason for each of the following :

1. Oxygen gas evolves at the anode and hydrogen gas evolves at the cathode.
2. Occurrence of aurora phenomenon.
3. Sodium fires are not put off with water.
4. Water molecule is from polar compounds.

B Study the following figure which represents a section of a periodic table, then answer :

[illegible]

1. Mention the atomic number of element (B).
2. What do shaded area represent ?
3. Mention the symbol which represents :
 - a. The most active element in group (1A).
 - b. The element which has the largest atomic size in the second period.

PART 2

Question 4

A Write the scientific term :

1. Traces and remains of the old living organisms that are preserved in sedimentary rocks.
2. An instrument used by pilots to measure the elevation from the sea level.
3. They are safe areas established to protect endangered species in their homeland.
4. The weight of air column of atmospheric air on a unit area.
5. A charged layer reflects radio waves.
6. The most dangerous ozone pollutants known as freon.

B Choose from column (B) what suits it in column (A) :

(A)	(B)
1. The process of converting the part of living organism to petrified material.	a. fossil record b. petrification c. protectorates
2. The fossils which are in the rocks of different regions and indicate the extinction and evolution of organisms.	

19 El-Sharkia Governorate

Directorate of Education

Answer the following questions :

Question 1

A Complete the following sentences :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. Elements of group (7A) are called
3. The modern periodic table consists of horizontal periods and vertical groups.
4. A bond that exists between water molecules is called
5. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$

B Locate the position of the following elements in the modern periodic table :

1. ${}_{19}\text{K}$
2. ${}_{13}\text{Al}$
3. ${}_{10}\text{Ne}$
4. ${}_{12}\text{Mg}$

C Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question 2

A Choose :

1. The volume of oxygen gas evolving from water electrolysis equals the hydrogen volume.
a. half b. double c. four times d. quarter

Workbook

Final Exams

2. All of the following gases are greenhouse gases except
- | | | | |
|------------------|-----------------|-------------------------|------------------|
| a. CO_2 | b. O_2 | c. N_2O | d. CH_4 |
|------------------|-----------------|-------------------------|------------------|
3. Complete body fossils of insects are found preserved in
- | | | | |
|-----------|----------|-----------------------|-----------|
| a. amber. | b. snow. | c. sedimentary rocks. | d. ocean. |
|-----------|----------|-----------------------|-----------|
4. causes blindness.
- | | | | |
|---------|------------|-----------|------------|
| a. Lead | b. Mercury | c. Sodium | d. Arsenic |
|---------|------------|-----------|------------|

B Define :

1. Global warming phenomenon.
2. Chemical activity series.

C Mention one example for each of the following :

1. Extinct bird.
2. Most active metal.
3. Endangered bird.

Question 3**A Correct the underlined words :**

1. Archaeopteryx represents the link between reptiles and mammals.
2. Meteors burn in thermosphere layer.
3. Ultraviolet radiation has a thermal effect.
4. Dinosaur is a mammal animal that has a shape midway between horse and zebra.

B Mention one use for each of the following :

1. Liquefied nitrogen.
2. Silicon.
3. Cobalt 60.

C Give reasons for :

1. Sodium is kept under the surface of kerosene.
2. The lower part of stratosphere is suitable for flying aeroplanes.

Question 4**A Write the scientific term :**

1. A phenomenon that appears as brightly coloured light curtains seen from the both poles of the Earth.
2. Safe place that are specified to protect the endangered species in their homeland.
3. The weight of air column of an atmosphere height on a unit area (1m^2).
4. The ability of the atom in the covalent molecule to attract the electrons of the chemical bond towards itself.
5. The traces that indicate the remains of an old living organism after death.
6. Elements that have both properties of metals and nonmetals.

B Compare between :

Simple ecosystem and complicated ecosystem.

C Write the balanced chemical equation which expresses the reaction of :

1. Carbon dioxide with water.
2. Magnesium with dilute hydrochloric acid.

20 El-Gharbia Governorate

Central Science Supervision

Answer the following questions :

Question 1

A Complete the following statements :

1. Moseley arranged the elements ascendingly according to , while Mendeleev arranged them ascendingly according to
2. Most of weather features occur in layer, whereas satellites swim through the layer.
3. Sodium is kept under the surface of to prevent it from the reaction with air.
4. Ultraviolet radiation has a effect, and the infrared radiation has a effect.
5. To obtain a complete body fossil of organism, it must be fast as soon as it died in medium protects it from

B Give reason for each of the following :

1. Formation of ozone layer in stratosphere.
2. Naming the petrified forests with wood mountain.

C Locate the position of each element in the modern periodic table :

1. Calcium ($_{20}\text{Ca}$).
2. Sulphur ($_{16}\text{S}$).

Question 2

A Write the scientific term, which refers to each of the following statement :

1. The descending arrangement of elements according to their chemical activities.
2. A phenomenon that appears as brightly coloured light curtains at both the poles of the Earth.
3. Remains or traces of organisms that lived in the past were preserved in sedimentary rocks.
4. Continuous decrease in numbers of species without compensation until all die out.

B Write the balanced chemical equations representing the following :

1. The reaction between magnesium and dilute hydrochloric acid.
2. The reaction between bromine with potassium iodide.
3. The electrolysis of water.

C Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question 3

A Choose the correct answer :

1. The scientist who discovered the main energy levels is
a. Moseley. b. Bohr. c. Hofmann. d. Mendeleev.

Workbook

Final Exams

2. The coldest atmospheric layer is
 - a. troposphere.
 - b. stratosphere.
 - c. mesosphere.
 - d. thermosphere.
3. Each period in the periodic table starts with a/an
 - a. metal.
 - b. metalloid.
 - c. non-metal.
 - d. inert gas.
4. Complete body fossils of insects are found preserved in
 - a. ammonites.
 - b. amber.
 - c. igneous rocks.
 - d. ambergris.
5. The snow crystal has shape.
 - a. octagonal
 - b. quadrilateral
 - c. pentagonal
 - d. hexagonal

B What will happen when ... ?

1. Storing water in plastic bottles.
2. Increasing the ratio of greenhouse gases in the atmosphere.

C Mention one use of each of the following :

1. Liquefied nitrogen.
2. Aneroid.

Question 4**A** Correct the underlined words :

1. Nonmetal oxides are considered basic oxides.
2. Ozone layer is measured in a unit called picometer.
3. The nummulites fossil is used for indicating the age of sedimentary rocks.
4. Ibis bird is from the birds that can't fly because of its small wings.

B Choose the odd word out, then mention what the rest has in common :

1. Lithium - Cesium - Sodium - Magnesium.
2. Methane gas - Carbon dioxide gas - Oxygen gas - Nitrous oxide.

C Arrange the following :

1. In a descending order according to electronegativity.
 ${}_6\text{C} - {}_9\text{F} - {}_8\text{O} - {}_7\text{N}$
2. Fossils starting with first appearance on the life stage.
 Mold fossil of fish - Mammoth fossil - Trilobite fossil - Archaeopteryx.

21**Damietta Governorate**

Damietta Educational Directorate

Answer the following questions :

Question 1**A** Complete the following statements :

1. There are bonds between water molecules, while the bonds between atoms in water molecules are bonds.

PART 2

2. The ultraviolet radiation has a effect, and the infrared radiation has a effect.
3. Elements of group (1A) are called, while elements of group (7A) are called
4. The highest temperature layer in the atmosphere is and the least one is

B Mention one use for each of the following :

1. Altimeter.
2. Index fossil.
3. Liquefied nitrogen.

C Locate the position of the following elements in the modern periodic table :

1. ${}_{19}\text{K}$
2. ${}_{10}\text{Ne}$

Question 2

A Write the scientific term for the following :

1. They are safe areas established to protect endangered species in their homeland.
2. Elements that have both properties of metals and nonmetals.
3. The halogen which exists in a liquid state.
4. Remains of old living organisms that preserved in sedimentary rocks.
5. The weight of air column of an atmosphere height above a unit area.

B Compare between each of the following (one point only for each) :

1. Simple ecosystem and complicated ecosystem.
2. Near ultraviolet rays and far ultraviolet rays.

C Mention the harms of :

Storing tap water in plastic bottles.

Question 3

A Choose the correct answer :

1. Carbon dioxide dissolves in water forming
a. base. b. acid. c. neutral. d. halogen.
2. All of the following are endangered species except
a. panda bear. b. bald eagle. c. quagga. d. rhinoceros.
3. react very slowly with cold water.
a. K and Na b. Ca and Mg c. Zn and Fe d. Cu and Ag
4. Meteors are formed and burned in layer.
a. troposphere b. stratosphere c. mesosphere d. thermosphere
5. is an example of complete body fossils.
a. Mammoth b. Ferns c. Coral d. Foraminifera

B Write the balanced chemical equations which express the following reactions :

1. Sodium with water.
2. Dissolving of magnesium oxide in water.
3. Bromine with potassium iodide.

C Mention the measuring unit of :

1. The degree of ozone layer.
2. The atomic size of element.

Question 4

A Give reasons for :

1. Silicon slides are used in manufacturing of computers.
2. Elements of the same group have similar properties.
3. Water has high boiling point.

B What is meant by ... ?

1. Van-Allen belts.
2. Chemical activity series.
3. Petrification.

C Correct the underlined words :

1. Ozone is the curved lines that join the points of equal pressure in atmospheric pressure maps.
2. Quagga is the most famous extinct animal in the old times.
3. Water has alkaline effect on litmus solution.

22

Kafr El-Sheikh Governorate

Science Director - General

Answer the following questions :

Question 1

A Complete the following statements :

1. The modern periodic table consists of horizontal periods and vertical groups.
2. Most of weather features occur in layer, while satellites rotate in layer.
3. Archaeopteryx represents the link between and
4. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$

B Explain the behaviour of the following elements with water :

1. Iron.
2. Potassium.

Question 2

A Choose the correct answer :

1. Which of the following fossils plays an important role in petroleum exploration ?
a. Foraminifera and radiolaria. b. Nummulites. c. Foraminifera and trilobite.
2. The is/are used in preservation of agricultural crops.
a. methyl bromide gas b. halons c. nitrogen oxide
3. The hottest atmospheric layer is
a. troposphere. b. mesosphere. c. thermosphere.
4. The elements of group (7A) are known as
a. alkali metals. b. halogens. c. alkaline Earth metals.
5. There are bonds among water molecules.
a. ionic b. hydrogen c. covalent

PART 2

6. Nonmetal oxides are oxides.

a. acidic

b. basic

c. amphoteric

7. All of the following are greenhouse gases except

a. CH_4

b. N_2O

c. O_2

B Give reasons for :

1. The atmospheric pressure decreases as we go up.

2. Sodium fires do not put off with water.

Question 3

A Write the scientific term :

1. The vertical columns in modern periodic table.

2. Traces and remains of living organisms that are preserved in sedimentary rocks.

3. Decrease in thickness of ozone layer.

4. The two magnetic belts that help in dispersing the harmful charged cosmic radiations.

5. The gas which is collected at the anode in water electrolysis.

6. The radioactive element which is used in food preservation.

B Locate the position of the following elements in the modern periodic table :

1. $[_{19}\text{K}]$

2. $[_9\text{F}]$

3. $[_5\text{B}]$

4. $[_{10}\text{Ne}]$

Question 4

A Put (✓) or (✗) in front of each of the following :

1. The air moves horizontally in the lower part of the stratosphere. ()

2. Ice crystals have pentagonal shapes. ()

3. In the period, as the atomic number increases the metallic property increases. ()

4. The fossil record indicates the age of the sedimentary rocks. ()

5. The ozone degree is measured in a unit called Dobson. ()

B Calculate the height of a mountain if the temperature at its base is $[30^\circ\text{C}]$ and at its top is $[-9^\circ\text{C}]$.

23

El-Behira Governorate

Kafr El-Dawar Educational Zone
El-Safwa Private Schools

Answer the following questions :

Question 1

A Complete the following :

1. Ozone layer lies in layer.

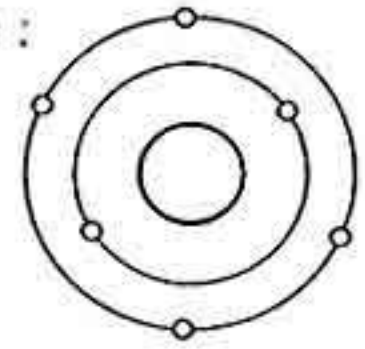
2. Nummulites fossil is an example of fossils but amber fossil is an example of fossils.

3. There are bonds between molecules of water.

4. and are examples of some extinct species in the old times.
5. is an instrument used to determine the possible day weather.
6. is considered form safe places that has endangered species.

B Mention the atomic number of the element that follows that element in :

1. The same period.
2. The same group.



Question 2

A Choose the correct answer :

1. The scientist who left gaps in his table to be filled with suitable discovered elements in future is
 a. Moseley. b. Rutherford. c. Bohr. d. Mendeleev.
2. is the hottest atmospheric layer.
 a. Stratosphere b. Mesosphere c. Thermosphere d. Troposphere
3. The snow crystal has shape.
 a. octagonal b. quadrilateral c. pentagonal d. hexagonal
4. is an example of endangered living organisms.
 a. Bald eagle b. Passenger pigeon c. Tasmanian cat d. Dinosaur

B Mention the diseases which are causes by :

1. Mixing animals and human wastes with water.
2. Drinking water contains high concentration of mercury.

C Give one example for :

1. An element reacts instantly with water.
2. A plant is endangered.
3. An element is used in preservation of cornea of eye.

Question 3

A Write the scientific term :

1. Elements which have properties of metals and nonmetals.
2. A group contains the strongest nonmetal.
3. It is a region in which the atmosphere envelope is inserted in outer space.
4. A bird is characterized by small wings and short legs.
5. They are traces and remains of old living organisms that are preserved in sedimentary rocks.
6. An atmospheric layer in which air currents move vertically.

B Give reasons for :

1. The lower part of stratosphere is suitable for flying airplanes.
2. Petrified wood are considered fossils although they look like rocks.

C Write the chemical equations represent each of the following :

1. Dissolving of magnesium oxide in water.
2. Reaction of chlorine with potassium bromide.

Question 4

A Look at the following diagram which represents a part of the modern periodic table, then answer :

[illegible]

Write the letter (s) which represent (s) :

1. Transition element.
2. The strongest metal.
3. The strongest nonmetal.
4. Noble gas.

Define :

1. Chemical activity series.
2. Extinction.
3. Electronegativity.
4. Atmospheric pressure.

Ⓒ Calculate the height of a mountain if the temperature at its base is 20°C and at its top is (-6°C) .

24

Ismailia Governorate

Directorate of Education

Answer the following questions :

Question 1

A Complete the following :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. The highest temperature atmospheric layer is and the least temperature one is
3. $\text{Mg} + 2\text{HCl} \longrightarrow \dots + \dots$
4. Among the pollutants of the ozone layer are compounds that are used in air conditioning sets and compounds that are used in extinguishing fires.

Ⓑ $C + O_2 \xrightarrow{\Delta} (A)$

$$(A) + H_2O \longrightarrow (B)$$

1. Write the chemical formula of (A) and (B).
2. Mention the effect of (B) on a litmus paper.

Question 2

A Compare between (in a table) :

1. Simple ecosystem and complicated ecosystem.
(according to : Number of members - Example)
2. Troposphere and stratosphere layers.
(according to : Height - Temperature at its top)

B What is meant by ... ?

1. Fossils.
2. Chemical activity series.
3. Electronegativity.

C Study the opposite figure, then answer :

1. Locate the position of element (B) in the modern periodic table.
2. The figure represents group which are named as
3. What is the periodic number of the elements (C) and (D) ?

A
11B
C
D

Question 3

A What happens when ... ?

1. Melting of the snow of the two poles.
2. Overuse of methyl bromide.
3. Drinking water with high concentration of mercury.

B Write the scientific term :

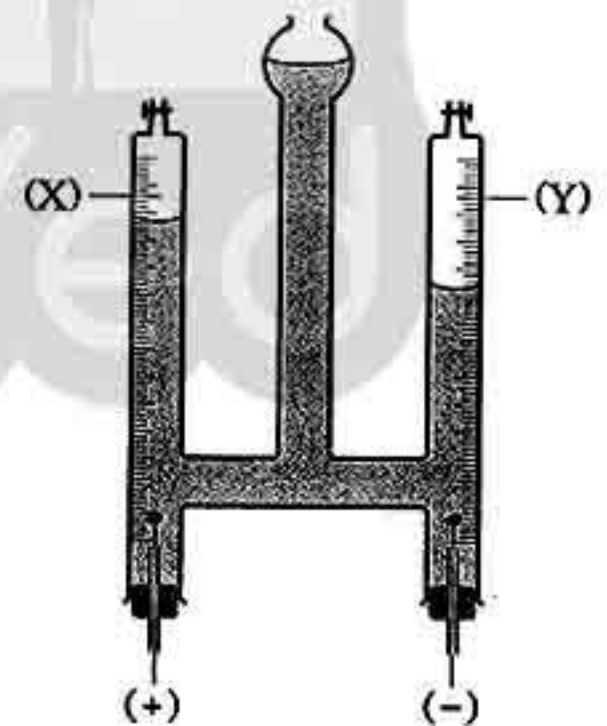
1. Safe areas established to protect endangered species in their homeland.
2. Two magnetic belts help in scattering the harmful radiation away from the Earth.
3. A solid halogen.

C Mention the importance of the following :

1. Liquefied nitrogen.
2. Cobalt 60.
3. Altimeter.
4. Coral fossil.

D From the opposite figure, answer the following :

1. What's the name of this apparatus ?
2. Letter (X) on the figure represents
3. Letter (Y) on the figure represents
4. Write the symbolic balanced chemical equation.



Question 4

A Choose :

1. fossils are found in limestone rocks of El-Mokattam mountain.
 - a. Ferns
 - b. Radiolaria
 - c. Nummulites
 - d. Fish
2. All of the following are from semi-metals except
 - a. tellurium.
 - b. silicon.
 - c. boron.
 - d. bromine.
3. The scientist discovered the main energy levels of the atom.
 - a. Bohr
 - b. Mendeleev
 - c. Newton
 - d. Moseley
4. All of the following are from greenhouse gases except
 - a. nitrogen oxide.
 - b. CO₂
 - c. water vapour.
 - d. nitrous oxide.

PART 2

(B) Give reasons for :

1. Water has high boiling point.
2. Sodium and potassium are kept under kerosene surface.
3. Ionosphere layer is important for radio stations.

(C) Calculate the temperature at the top of a mountain which its height is 5000 meters, if the temperature at the base of that mountain is 28°C .

25 Port-Said Governorate

Educational Directorate
Science Inspectorate for Language Schools

Answer the following questions :

Question 1

(A) Complete the following statements :

1. The modern periodic table consists of horizontal periods.
2. Archaeopteryx represents the link between and
3. Ultraviolet radiation has a effect.

(B) Give reasons for the following :

1. Water molecule is a polar molecule.
2. The occurrence of the aurora phenomenon.
3. Although sugar is a covalent compound, it dissolves in water.

Question 2

(A) Write the scientific term for each of the following statements :

1. A group contains the strongest nonmetals.
2. The environmental system that is affected severely by the absence of one species of living organisms that live in it.
3. The vertical columns in Mendeleev's table.

(B) Calculate the height of a mountain if the temperature at its base is 30°C and at its top is -6°C .

(C) Mention one difference between each of the following :

1. Simple and complicated ecosystems.
2. Natural and industrial water pollutants.

Question 3

A Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Altimeter	a. The layer that has all the weather phenomena.
2. Thermosphere	b. A suitable layer for airplanes flying.
3. Troposphere	c. A device used to measure the altitude of planes.
4. Stratosphere	d. The hottest layer in the atmospheric envelope.

B What happens in the following situations ... ?

- Putting a magnesium strip inside a test tube containing oxygen.

C Correct the underlined words :

1. The passenger pigeon is from the birds that can't fly because of its small wings.
2. Each period ends with a nonmetal.
3. The environmental systems are safe places which are specified to protect the endangered species in their natural environments.

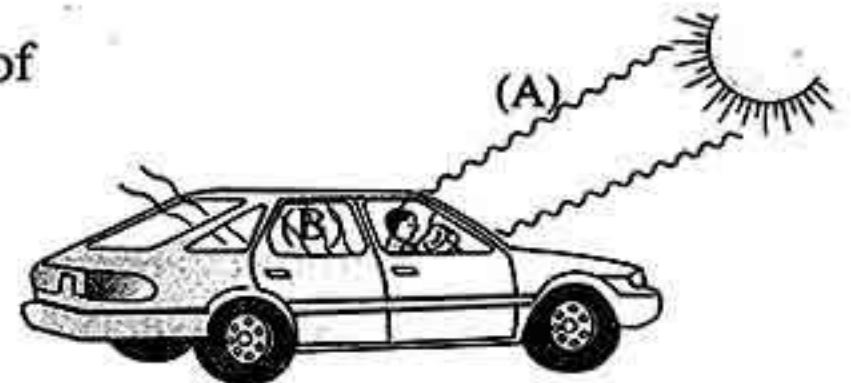
Question 4

A Choose the correct answer :

1. is an example of microfossils.
 - a. Mammoth
 - b. Ferns
 - c. Foraminifera
 - d. Archaeopteryx
2. The scientist discovered the main energy levels in the atom.
 - a. Bohr
 - b. Mendeleev
 - c. Moseley
 - d. Hofmann
3. All of the following are endangered species except
 - a. panda bear.
 - b. bald eagle.
 - c. quagga.
 - d. rhinoceros.
4. Sodium oxide is from oxides.
 - a. amphoteric
 - b. acidic
 - c. nonmetallic
 - d. basic

B The opposite figure shows a person in a car with closed windows :

1. Label the letters (A) & (B) that represent two types of electromagnetic waves.
2. What is the process expressed by this figure ?



C Define each of the following :

1. Chemical activity series.
2. Fossils.
3. Water pollution.

26 Suez Governorate

Directorate of Education and Teaching
Inspect of Science

Answer the following questions :

Question 1

A Complete the following statements :

1. The scientist discovered the main energy levels in the atom.
2. Among the pollutants of the ozone layer are compound that is used in air conditioning set.
3. Ultraviolet radiation has a effect and the infrared radiation has a effect.
4. Archaeopteryx represents the link between and

B What are the results of ...?

1. Presence Van-Allen's belts.
2. Storing water in plastic bottles.

C Write the scientific term :

1. Metals are arranged descendingly according to their chemical activity.
2. The ability of the atom in the covalent molecule to attract the chemical bond electron to it.
3. The region where the atmospheric envelope merges with the outer space.
4. They are the remains or traces of organisms that lived in the past and were preserved in sedimentary rocks.

Question 2

A Give reasons for :

1. Alkali metals are kept under kerosene in the lab.
2. The lower part of the stratosphere is suitable for airplanes flying.
3. Presence of hydrogen bond between water molecules.
4. Ionosphere is important for radio stations.

B Choose :

1. When sodium reacts with water, gas evolves.
a. O_2 b. CO_2 c. H_2 d. N_2
2. Ozone layer is measured in a unit called
a. km. b. Dobson. c. nm. d. mm^3
3. Complete fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. ambergris.
4. All of the following are endangered species except
a. panda bear. b. bald eagle. c. quagga. d. rhinoceros.

C Study the opposite figure, then answer :

What is the symbol (s) which indicate (s) the :

1. Inert gases.
2. Alkali metals.
3. Halogens.

												N
A										I	K	L
	C									H		O
B			D		E	F	G		J		M	

Question 3

A What happens when ... ?

- Adding the purple Sunflower solution to a jar has a piece of burning coal. [Write the symbolic balanced equation].

B Correct the underlined words :

1. The elements in Mendeleev's table are arranged according to the increase of atomic numbers.
2. The radioactive cobalt is used in preservation of cornea of the eye.
3. Element which its atomic number is 12 lies in period four and group (2A).
4. Fluorine gas is used as an insecticide to preserve stored agricultural crops.
5. Noble gases are elements which have both properties of metals and nonmetals.

Ⓒ During the electrolysis of acidified water, the volume of the gas which increases the glowing of burning fragment when approaching is equal to 7 cm^3 :

1. What is the name of this apparatus in the process of electrolysis ?
2. What is the gas name ? and it evolves at pole.
3. Write the balanced symbolic equation of this reaction.

Question 4

A Write the symbolic balanced chemical equations that indicate the following reactions :

1. Magnesium with hydrochloric acid.
2. Chlorine gas with potassium bromide solution.

B What do you expect when ... ?

1. Absence of one of its species from the simple ecosystem.
2. Establishing natural protectorate.

© If the temperature at the base of Mountain Everest is 20°C . How much is the temperature at its top if the mountain height is 8 km.

D What is meant by ... ?

1. Extinction. 2. Global warming phenomenon.

Answer the following questions :

Question 1

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to, while Moseley arranged them ascendingly according to
2. Sodium is kept under the surface of to prevent it from the reaction with
3. Troposphere contains about % from atmospheric envelope mass and about % from atmospheric water vapour.
4. When the density of greenhouse gases increases in the Earth's atmospheric envelope, it allows the passage of and
5. Fossils are traces and remains of organisms that are preserved in rocks.
6. From the extinct animals in the old ages are and

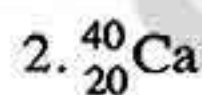
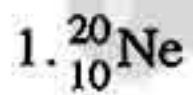
B Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question 2

A Give reason for each of the following :

1. Mendeleev left gaps (empty places) in his periodic table.
2. Importance of fossils in petroleum exploration.
3. Increasing the size of ozone hole in September every year.

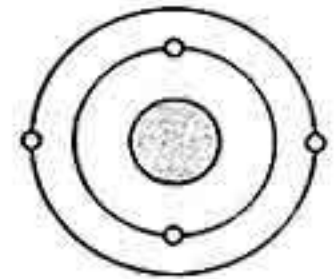
B Locate the position of these elements in the modern periodic table :



C Study the opposite figure that shows the electronic configuration of element (X) in the modern periodic table :

- Deduce the atomic number of the element that follows that element in :

1. The same period.
2. The same group.



Question 3

A Choose the correct answer :

1. The number of known elements in the modern periodic table till now is
a. 217 b. 316 c. 16 d. 118
2. The 3rd period starts with elements their oxides as the following
a. basic, amphoteric, then acidic. b. acidic, basic, then amphoteric.
c. acidic, amphoteric, then basic. d. basic, acidic, then amphoteric.

3. in its salt solutions.
 - a. Chlorine replaces bromine
 - b. Bromine replaces fluorine
 - c. Iodine replaces chlorine
 - d. Iodine replaces fluorine
4. After solidification of the resinous matter secreted by pine trees in the old geological periods, it forms
 - a. amber fossil.
 - b. fossil of a complete body.
 - c. trilobite fossil.
 - d. nummulites fossil.
5. is the second layer of atmospheric envelope.
 - a. Troposphere
 - b. Stratosphere
 - c. Mesosphere
 - d. Thermosphere
6. is used as an insecticide to preserve stored agricultural crops.
 - a. Methyl bromide gas
 - b. Halons
 - c. Nitrogen oxide
 - d. Freon
7. Worm's tunnels fossil is formed because of
 - a. the presence of hard skeleton.
 - b. the activity of worms during its life.
 - c. the death of the worms themselves and quickly buried in sedimentary rocks.
8. protectorate is the first established natural protectorate in Egypt.
 - a. Saint Cathrine
 - b. Ras Mohamed
 - c. Wadi Hetan
 - d. Petrified forest

B Mention one use of each of the following elements :

1. Cobalt 60.

2. Liquefied nitrogen.

Question 4

A Write the scientific term :

1. The block that contains the series of lanthanides and actinides.
2. A charged layer reflects radio waves.
3. Thinning or losing parts of ozone layer above the south pole.
4. Fossils of organisms that had lived for a short period of time in the past and had a wide geographic distribution.

B Mention one difference between each of the following :

1. Complicated ecosystem and simple ecosystem.
2. The benefits (or characteristics) of Ras Mohamed protectorate and Wadi Hetan region.

C Write the balanced chemical equation which expresses the following reaction :

Carbon dioxide with water.

28 El-Minia Governorate

Administration of Distinguished and Governmental Language Schools

Answer the following questions :

Question 1

A Complete the following statements :

1. Fossils are found in rocks.
2. is the region between stratosphere and mesosphere.
3. Metal oxides are called oxides, while nonmetal oxides are called oxides.
4. Ultraviolet radiations have effect, while the infrared radiations have effect.
5. The scientist discovered the main energy levels in the atom, but the scientist Rutherford discovered

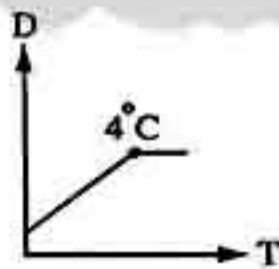
B Write the balanced chemical equations :

1. The formation of ozone gas.
2. Reaction between chlorine gas and potassium bromide.

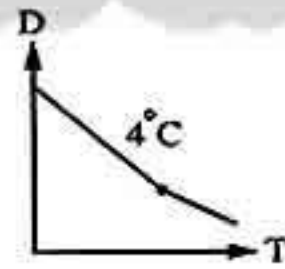
Question 2

A Choose the correct answer :

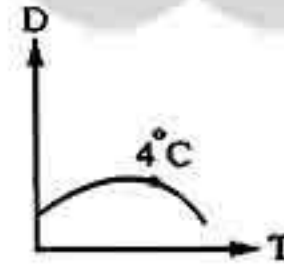
1. The element which locates in period (3) and group (3A) is
a. $_{13}\text{Al}$ b. $_5\text{B}$ c. $_{11}\text{Na}$ d. $_{15}\text{P}$
2. All of the following gases are greenhouse gases except
a. CO_2 b. N_2O c. O_2 d. CH_4
3. The figure represents the change of water density by changing the temperature.



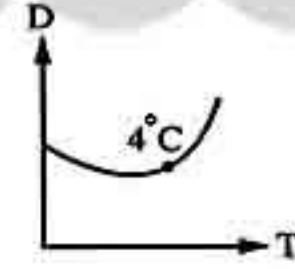
a.



b.



c.



d.

4. The air moves in the stratosphere layer.
a. horizontally b. vertically c. inclined d. no correct answer
5. Complete body fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. scorpion.

B Give reasons for :

1. Water molecules are from polar compounds.
2. The atomic size increases through group.

Question 3

A Write the scientific term for each of the following statements :

1. Curved lines that join the points of equal pressure in the atmospheric pressure maps.
2. The halogen which exists in a solid state.
3. Thinning or losing parts of ozone layer.
4. Elements that have properties of metals and nonmetals.
5. A type of ultraviolet radiations that is absorbed completely 100 % in ozone layer.
6. Arrangement of metals in a descending order according to their chemical activity.

B Problem :

If the temperature at the top of a mountain is 17°C .

Calculate the temperature at its base if the mountain height is 2000 m.

Question 4

A Correct the underlined words :

1. 50% of the mass of the atmospheric envelope is present in the area between the sea level and 13 km elevation.
2. Cobalt 60 is used in preservation of cornea of the eye.
3. Elements of "p" block are organized in 5 groups.
4. Chemical pollution of water causes typhoid and hepatitis.
5. Extinction of some polar animals is from the positive effects of global warming phenomenon.

B What happens when adding HCl to the following elements ... ?

1. Copper.
(Write the chemical equation).
2. Magnesium.

29 Assiut Governorate

Administration of Distinguished and
Governmental Language Schools

Answer the following questions :

Question 1

A Complete the following statements :

1. Drinking water has high ratio of which causes the death of brain cells.
2. The atmospheric layer containing most of the water vapour is
3. The number of electrons in the outermost energy level indicates number.
4. There are bonds between water molecules, while the bonds between atoms in water molecules are bonds.

PART 2

B Write the measuring unit of :

1. The wavelength of ultraviolet rays.
2. Atmospheric pressure.

C Locate the position of the following elements in the modern periodic table :

1. $_{13}\text{Al}$
2. $_{10}\text{Ne}$

Question 2

A Choose the correct answer :

1. The element which its atomic number equals 17 is similar to that of atomic number equals
a. 7 b. 19 c. 9 d. no correct answer.
2. Elements in d-block are called
a. alkaline Earth metals. b. halogens.
c. transition elements. d. alkali metals.
3. The coldest layer in the atmosphere is
a. mesosphere. b. stratosphere.
c. ionosphere. d. thermosphere.
4. Complete body fossils of insects are found preserved in
a. amber. b. ambergris.
c. igneous rocks. d. no correct answer.

B State using equations :

- How to obtain H_2 by using three different methods.

C Mention the importance of :

1. Van-Allen belts.
2. Cobalt 60

Question 3

A Correct the underlined words :

1. Elements of group (1A) are known as inert gases.
2. Each period ends with a nonmetal.
3. Archaeopteryx links between reptiles and mammals.
4. The halons are produced from burning supersonic airplanes.

B Compare between :

1. Fluorine and cesium [according to chemical activity].
2. Near ultraviolet rays and far ultraviolet rays [according to wavelength].

C Write the balanced chemical equations which express the reaction of :

1. Carbon dioxide with water.
2. Halogen with metallic element.

Question 4

A Write the scientific term :

1. The apparatus which is used for electrolysis of water.
2. The scientist who discovered the presence of protons in the nucleus of the atom.
3. The series in which metals are arranged in a descending order according to their chemical activity.
4. Non-flying bird which became extinct.

B Give reasons for :

1. Mendeleev left empty places in his table.
2. Ionospheric layer is important for wireless communications.

C Calculate the temperature at the top of a mountain with a height 8000 m if the temperature at Earth's surface equals 22°C .

30 Sohag Governorate

Science Department

Answer the following questions :

Question 1

A Complete the following statements :

1. Ultraviolet radiation has effect, while infrared radiation has effect.
2. The highest temperature layer in the atmosphere is and the least temperature is
3. Archaeopteryx fossil links between and
4. Desert is an example of ecosystem, while tropical forest is an example of ecosystem.

B Give one use for :

1. Aneroid.
2. Liquid sodium.
3. Index fossils.

C Calculate the height of a mountain if the temperature at its base is 30°C and at its top is (-9°C) .

Question 2

A Give reasons of the following :

1. Increase CO_2 gas ratio in the atmosphere.
2. Water molecule is from polar molecules.
3. Elements of group (IA) are known alkali metals.
4. The lower part of the stratosphere is suitable for flying airplanes.

B Locate the position of the following elements in the modern periodic table :

1. ${}_{20}\text{Ca}$
2. ${}_3\text{Li}$
3. ${}_8\text{O}$

PART 2

C Write one example for :

1. A complete body fossil.
2. A metal reacts very slowly with cold water.
3. An animal extinct in old times.

Question 3

A Choose the correct answer :

1. All of the following are greenhouse gases except
a. CO_2 b. N_2O c. O_2 d. CH_4
2. The atmospheric pressure on the top of a mountain is the atmospheric pressure at sea level.
a. more than b. less than
c. equal to d. no correct answer
3. In the periodic table, the elements which are identical in properties lie in the same
a. period. b. group.
c. nucleus. d. no correct answer.
4. is used in food preservation.
a. Cobalt 60 b. Silicon
c. Liquefied nitrogen d. No correct answer

B Write the chemical equation for each of the following :

1. Reaction of sodium with water.
2. Reaction of magnesium with hydrochloric acid.

C Correct the underlined words :

1. Pure water in normal atmospheric pressure boils at 70°C.
2. Petrified wood is considered from rocks.
3. The physical state of iodine is liquid state.

Question 4

A Write the scientific term :

1. The apparatus which is used in water electrolysis.
2. Weight of air column of atmosphere height on a unit area.
3. It is a phenomenon that appears as brightly coloured curtains seen from both poles.
4. A descending arrangement of elements according to their chemical activity.

B Compare between :

1. Mendeleev's periodic table and Moseley's periodic table [according to the arrangement of the elements].
2. Acidic oxides and basic oxides [according to dissolving in water].

C Find the atomic number for the following elements :

1. Element X lies in third period and group (6A).
2. Element Y lies in the fourth period and group (2A).

1

Cairo Governorate

Heliopolis Educational Zone
St. Joseph's School

Answer the following questions :

Question 1

A Complete the following statements :

1. rearranged the elements in an ascending order according to their atomic number.
2. Arrangement of metals according to their chemical activity is called

B State four different factors that cause the recent extinction of species :

C Give reasons for each of the following :

1. When the concentration of green house gases increases in the atmosphere, then the Earth's temperature increases also.
2. Dodo bird is a non-flying bird.

Question 2

A Choose the correct answer :

1. All the following are alkaline Earth metals except
 a. magnesium. b. potassium. c. calcium. d. beryllium.
2. is the second atmospheric layer.
 a. Mesosphere b. Stratosphere c. Troposphere d. Thermosphere

B Complete the following equations :

1. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$
2. + $\longrightarrow \text{MgCl}_2 + \text{H}_2$

C Define each of the following :

1. Ionization.
2. Fossil.

Question 3

A Write down the scientific term of the following :

1. The first vertebrate to appear.
2. Fossils of organisms that lived a short period of time in the past and became extinct.

B Arrange each of the following in its proper group and period :

1. $_{13}\text{Al}$
2. $_{17}\text{Cl}$
3. $_{19}\text{K}$
4. $_{3}\text{Li}$

C Explain each of the following :

1. The temperature of human body does not change **by changing** the atmospheric temperature.
2. Disappearance of papyrus plant.

Question 4

A Put (✓) or (x) in front of each statement :

1. Liquefied nitrogen is used in preservation of the eye's cornea. ()
2. The Tasmanian cat has a pouch like the Kangaroo. ()

B What is meant by each of the following ...?

1. Electronegativity property.
2. Metalloids.

C Mention Four dangerous pollutants of the ozone layer.

2

Cairo Governorate

Heliopolis Educational Zone
Patriarchal College (Ex. Frères)

Answer the following questions :

Question 1

A Complete the following statements :

1. By increasing the atomic size in the group, the electronegativity and the atomic number
2. Fossils are and of old living organisms that are preserved in rocks.
3. There are bonds between water molecules, while the bonds between atoms in water molecule are bonds.
4. The number of electrons in the outer most energy level indicates number.

B Give reasons for each of the following :

1. Ionosphere is important for wireless communication.
2. Mendeleev left gaps in his table.
3. The bald eagle is one of the endangered species.

C Locate in the modern table the position of the following elements :

1. $_{13}\text{Al}$
2. $_{10}\text{Ne}$
3. $_{11}\text{Na}$

Question 2

A Choose the correct answer :

1. Elements of block "d" are called
a. lanthanides. b. noble gases. c. transition elements. d. actinides.
2. is located between stratosphere and mesosphere.
a. Tropopause b. Stratopause c. Mesopause d. Ionosphere
3. When sodium reacts with water gas evolves.
a. O_2 b. CO_2 c. H_2 d. N_2
4. is considered from halogens.
a. Sodium b. Chlorine c. Helium d. Calcium

B Compare between :

1. Fluorine – Cesium, according to :
a. electronegativity. b. chemical activity.
2. Near ultraviolet rays – Far ultraviolet rays, according to :
a. wavelength. b. their effects on living organisms.

C Calculate the temperature at the top of an mountain with height 8000 m. if the temperature at Earth's surface = $22^\circ C$.

Question 3

A Write the scientific term :

1. It is the replica of the external details of a skeleton of once and old living organisms.
2. It is characterized by containing a large number of members of living organisms.
3. It is the continuous increase in the average temperature of Earth's near surface air.
4. It is a phenomenon that appears as bright coloured light curtains seen from the both poles of the Earth.
5. It is the number of protons inside the nucleus of the atom of an element.
6. It is an atom of nonmetallic element that gains an electron or more during the chemical reaction.

B Mention an example of :

1. Simple ecosystem. 2. Polar compound.
3. Gas causes ozone erosion.
4. The most active element in the periodic table.

C Mention one use of :

1. Baking soda powder.
2. Hofmann's Voltameter.
3. Aneroid.
4. Sodium in liquid state.

Question 4

A Write the chemical equation which represent the following reactions :

1. Water electrolysis.
2. Magnesium with hydrochloric acid.
3. Bromine with potassium iodide.
4. Copper with hydrochloric acid.

B Write the measuring unit of :

1. Atomic size element.
2. Atmospheric pressure.
3. The degree of ozone layer.
4. The wavelength of ultraviolet rays.

C Mention :

1. Kinds of artificial water pollution.
2. The negative effects of global warming phenomenon.

3

Cairo Governorate

Heliopolis Educational Admin.
St. Fatima Language School Abbassia

Answer the following questions :

Question 1

A Complete the following statements :

1. Among the pollutants of ozone layer are that are used in extinguishing fires, and that is used as insecticides to preserve stored crops.
2. Ultraviolet rays have effect, while infrared rays have effect.
3. Drinking water has high ratio of causes death of brain cells.
4. From metals that reacts with hot water vapour only is

B Choose from column (B) what suits in column (A) :

(A)	(B)
1. Methane gas	a. N_2O
2. Carbonic acid	b. CFC_s
3. Nitrous oxide	c. H_2CO_3
4. Chlorofluorocarbon	d. CH_4

1. What is the **symbols** which indicates the :

- | | | | | | | | | | | | | | | | | | |
|---|---|--|--|---|--|--|---|--|---|--|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | N | | |
| A | | | | | | | | | | | | | I | K | | L | |
| | C | | | | | | | | | | | H | | | | | O |
| B | | | | D | | | E | | F | | G | | J | | | M | |

2. Compare between (K , L , I and A) according to atomic size and electronegativity in descending order.

Question 2

1. Where are they located ?
2. What is the phenomenon that results from their existence ?
3. Why they are very important for Earth planet ?

B Write a short note about :

1. Factors causing extinction of species.
2. Chemical activity series.
3. Petrified fossils.
4. Electronegativity.

C Find the height of a mountain if the temperature at its base is 40°C and at its top is 7.5°C .

Question 3

A Give reasons for each of the following :

1. Water has a **neutral** effect on both litmus paper.
2. Earth's temperature is organized by troposphere layer.
3. Sugar dissolves in water.

B Choose the odd word out, then mention the scientific term for the rest :

1. Potassium – Iodine – Fluorine – Astatine – Bromine.
2. Fluorine – Chlorine – Oxygen – Hydrogen – Sodium.
3. Lithium – Sodium - Calcium – Caesium.

C 1. Write one example for :

1. Natural water pollutant.
2. Liquid halogen.

2. Choose the correct answer :

- The hottest atmospheric layer is
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
- The element which its atomic number = 17 is similar to that of atomic number equals
a. 2 b. 7 c. 9 d. 19

Question 4

A Compare between each of the following :

- Mendeleev's table and the modern periodic table according to :
(the principle of elements classification)
- Electrolysis of water and ionization of water according to :
(The chemical equations only)
- Troposphere and stratosphere according to : (Air movement)

B Write the balanced chemical equation for the following reactions :

- Reaction of sodium with water.
- Reaction of Magnesium with dilute hydrochloric acid.
- Reaction of carbon dioxide with water.
- Two steps of ozone formation from oxygen by UV.

4

Cairo Governorate

El Nozha Zone
Our Lady of Perpetual Succour School

Answer the following questions :

Question 1

A Choose the correct answer :

- From the recently extinct species
a. dodo. b. archeopytryx. c. papyrus. d. all the previous.
- The number of periods in the modern periodic table
a. 18 b. 7 c. 8 d. 10
- Elements in d block are
a. alkali metals. b. alkaline earth metals.
c. transition elements. d. inert gases.

4. The coldest layer in the atmosphere is

- a. troposphere. b. mesosphere. c. stratosphere. d. ionosphere.

5. The normal atmospheric pressure at sea level is millibar.

- a. 10.13 b. 1 c. 1013.25 d. 76

6. Air moves horizontal in

- a. troposphere. b. mesosphere. c. stratosphere. d. thermosphere.

B Give an example on :

- | | |
|------------------|--|
| 1. Metalloid. | 2. Substance has bad effect on ozone layer. |
| 3. Acidic oxide. | 4. Water pollutant causes damage of brain cells. |

C What happens if ?

1. Decrease in green-house gases.
2. Extinction of an organism in simple ecosystem.
3. Cutting oak trees in north America.

Question 2

A Put (✓) or (x) in front of each statements :

1. Methyl bromide is used as fire extinguisher. ()
2. Concord planes are useful for the environment. ()
3. Presence of Nummulite fossil indicates that the environment was tropical forest. ()
4. Far and medium UV help the body to increase the immunity. ()
5. It is healthy to keep tap water in plastic bottles. ()

B What is the scientific explanation ?

1. Presence of Foraminefra and Radiolaria in a place.
2. Increase in atomic size with the increase in atomic number in the group.
3. Aeroplanes fly in the tropopause or the lower part of the stratosphere.

C Answer the following :

1. Which has higher polarity H_2O or HCl ? ($H : 2.1 - 0 : 3.5 - Cl : 3$)
2. An element present in group 13, period 2, find its atomic number, and find the atomic number of the element below it in the periodic table.

Question 3

A Write the scientific term :

1. Safe area to keep endangered species in their homeland.
2. The weight of air column equal to the height of atmosphere and surface area 1cm^2 .
3. Traces and remains of old organisms preserved in sedimentary rocks.
4. Elements in group 7A.

B Compare between :

1. Mold and trace.
2. Group 1 and group 2

C Write short notes about :

1. Mammoth.
2. Halons.
3. Van-Allen belts.

Question 4

A Complete the following statements :

1. Water is used to extinguish fires, because it has low
2. The unit used to measure atomic size is
3. The atmospheric layer containing most of the water vapour is
4. Cobalt 60 produces rays, so it is used in food preservation.
5. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$

B Give reasons for each of the following :

1. Extinction of Dinosaurs.
2. Mendeleev left gaps in his periodic table.
3. Cutting trees has bad effect on the environment.
4. Moving up decreases the atmospheric pressure.

C Find : the temperature outside an aeroplane at height 11 km, if the temperature at the Earth's surface is 24°C .

5

Cairo Governorate

Abdeen Educational Directorate
Patriarchal College

Answer the following questions :

Question 1

A Complete the following statements :

1. The highest temperature layer in the atmosphere is and the least one is
2. When the density of green house gases increases in the earth's atmospheric envelope it allows the passage of and
3. All alkalis dissolve in water forming , but not all are alkalis.
4. gas results from combining of free active with the molecule of the same gas.
5. Halogens are named by this name because they react with forming

B State using equations :

1. How to obtain H_2 using 3 different methods.
2. The role of $CFCl_3$ in destroying the ozone.
3. The reaction of dil. HCl with Mg and with Ca.

C What do you know about ...?

1. Structure of water molecule with drawing.
2. Formation of complete body fossils (giving examples).

Question 2

A Give reasons for each of the following :

1. Petrified woods are considered from fossils although they look like rocks.
2. Potassium is more active than sodium in group 1A.
3. Formation of ozone layer in the stratosphere layer.
4. Although sugar is a covalent compound, it dissolves in water.

B Choose the correct answer :

1. All the following elements are from semi-metals except
 a. tellurium. b. silicon. c. boron. d. bromine.
2. One Dobson unit (DU) is defined as
 a. 3 mm. b. 0.1 mm. c. 0.01 mm. d. no correct answer.

3. The density of air at the foot of a mountain is its top.
 a. more than b. less than c. equal to d. doubled
4. Al_2O_3 is considered as oxide.
 a. basic b. acidic c. amphoteric d. alkaline

C What do these numbers indicate ?

1. 1×10^{-9} m.

2. 37 km.

Question 3

A Write the scientific term :

1. The best world heritage place where whale's skeletons and complete whale's fossils.
2. Oxides that cause ozone hole and result from burning the fuel of ultrasound air planes.
3. Different forms of nuclei of the same element having the same atomic number but different mass number.
4. The continuous increase in the average temperature of the air near the surface of the Earth.

B Compare between :

1. Passenger pigeon and rhinoceros.
2. 68 species, 138 species and 450 species.
3. Van Allen belts and Aurora phenomenon.

C Some scientists believe that we live the sixth extinction age where the rate of extinction is 40 times larger than the normal rate of extinction.

Explain the reasons that cause this extinction.

Question 4

A Correct without changing the underlined phrases :

1. The red list issued by IUCN includes the extinct species.
2. The temperature of the third layer increases at a high rate as we go up until it reaches 1200°C.
3. Burning a piece of magnesium gives magnesium oxide which is an acidic oxide.

B State one use :

1. Exosphere region.
2. Index fossil.
3. Liquid nitrogen.
4. Barometer.

C What happens when ?

1. Removing snakes from a ~~terrestrial~~ food chain.
2. Infrared radiations don't reemit ~~back~~ from troposphere layer.
3. Dissolving of magnesium oxide in water.

6**Cairo Governorate**Shoubra Educational Directorate
Ramses Language School

Answer the following questions :

Question 1**A Choose the correct answer :**

1. Alkaline earth metals lie in group
a. 1A b. 2A c. 7 A d. zero
2. Meteors are burned in layer.
a. mesosphere b. troposphere c. stratosphere d. thermosphere
3. When sodium reacts with water, gas evolves.
a. O₂ b. CO₂ c. H₂ d. Br₂
4. Element (x) lies in the third period and group (3A), its atomic number is
a. 7 b. 17 c. 13 d. 18
5. Each period in the modern periodic table starts with
a. nonmetal. b. metal. c. metalloid. d. inert gas.
6. Ozone molecule is formed of oxygen atom (s).
a. 1 b. 2 c. 3 d. 4
7. is the plant that grows in the upper Nile swamps.
a. Beech b. Oak c. Camphor d. Papyrus

B Give reasons for each of the following :

1. Water molecule is from polar compounds.
2. Using radioactive cobalt in food preservation.
3. The dodo bird is an easy target to hunt.

Question 2**A Write the scientific term :**

1. The weight of air column of atmospheric air on unit area.
2. Arrangement of metals in a descending order according to their chemical activity.

3. Continuous increase of the average temperature of air near Earth's surface.
4. An instrument used by pilots to measure the elevation from the sea level.
5. Elements which start to appear in the fourth period.
6. An endangered animal that lives in the bamboo forests of northeast china.

B Write the balanced chemical equation which represents the following :

1. Water electrolysis.
2. Reaction of Magnesium with hydrochloric acid.

C What is the importance of :

1. Sodium.
2. Liquified nitrogen.

Question 3

A Complete the following :

1. Most weather features occur in layer, while satellites swim through
2. Pure water boils at and freezes at
3. Archeopteryx links at between and
4. Pine trees secrete resinous matter which changes into after its solidification.

B Locate the position of each of the following elements in the modern periodic table.

1. ${}_{20}\text{Ca}$
2. ${}_{10}\text{Ne}$
3. ${}_{17}\text{Cl}$

Question 4

A Put (✓) or (✗) then correct the wrong ones :

1. The ionosphere is surrounded by two magnetic belts known as Van Allene's belt. ()
2. The atomic number of an element increases from an element to the next element in the period by one. ()
3. Ammonia and water are from polar compounds. ()
4. The scientist Mendeleev discovered the main energy levels in the atom. ()
5. Golden frog is considered endangered animal. ()
6. Petrified wood is considered from rocks. ()

B If the temperature at the base of a mountain is 20.5°C . Calculate the temperature at its top if the mountain's height is 9 km.

C Compare between :

1. Group (1A) and group (7A). [kind of formed ions].
2. Metal oxides and nonmetal oxides. [the effect of each on litmus paper]

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Cairo Governorate

West Cairo Zone

Answer the following questions :

Question 1

A Complete the following statements :

1. From the extinct animals in the old ages are and
2. Archaeopteryx is a link between and
3., and are from pollutants of ozone layer.
4. The highest temperature layer in atmosphere is and the least temperature one is
5. The valency of alkali metal elements is
6. The electronegativity in the modern periodic table increase from to inside the same period.

B Give reasons for each of the following :

1. Elements of the same group have similar properties.
2. Water molecule is from polar molecules.
3. Pilots prefer to fly their planes in the lower part of stratosphere.
4. Sodium and potassium are kept under kerosene.

Question 2

A Write the scientific term :

1. The continuous decrease in the number of the same species of a living organism without compensation, until they all die out.
2. Traces and remaining of old living organisms that are preserved in sedimentary rocks.
3. The region between mesosphere and the thermosphere.
4. The bond exists between water molecules.
5. Elements that have properties of metals and nonmetals.

B What happens if ...?

1. Adding the violet litmus solution to magnesium oxide.
2. Storing tap water in a plastic bottle.

C Locate the position of the following elements in the modern periodic table :

1. Calcium $_{20}\text{Ca}$
2. Neon $_{10}\text{Ne}$
3. Helium $_2\text{He}$

Question 3

A Put (✓) or (x), then correct the wrong ones :

1. Halogens are monoatomic molecules. ()
2. Quagga is from the endangered species. ()
3. Bohr had discovered the main energy level. ()
4. Metallic property in group 1A increases from up to down. ()
5. The ozone layer allows the passage of all near and medium ultraviolet rays. ()
6. Stratopause separates between stratosphere and troposphere. ()

B Calculate the temperature at the top of mountain of height 4 km. If the temperature at its foot is 32°C.

C Write the chemical equation representing the water electrolysis by hofmann's voltameter.

Question 4

A What is meant by ?

1. Chemical activity series.
2. Atmospheric pressure.

B Choose the correct answer :

1. is the first establishe natural protectorate in Egypt.
 - a. Saint cathrine
 - b. Ras Mohamed
 - c. Wadi Hetan
 - d. Petrified forest
2. Ozone molecule consists of atoms.
 - a. four oxygen
 - b. two oxygen
 - c. three oxygen
 - d. one oxygen
3. Ionosphere layer is surrounded by two belts.
 - a. electric
 - b. magnetic
 - c. thermal
 - d. ionic
4. The snow crystals have shape.
 - a. octagonal
 - b. quadrilateral
 - c. pentagonal
 - d. hexagonal
5. is an example of microfossils.
 - a. Mammoth
 - b. Ferns
 - c. Foraminifera
 - d. Archeopteryx
6. The strongest metals lie in group
 - a. 7 A
 - b. 2 A
 - c. 1 A
 - d. zero

8

Giza Governorate

Boulak El Dakroul Directorate

Answer the following questions :

Question 1

A Complete the following statements :

1. The atomic size of the same group increases by the atomic number.
2. The hottest layer in the atmosphere is , and the coldest one is
3. From the extinct animals in the old age are and
4. discover the main energy levels in the atom.

B Give reasons for each of the following :

1. The polarity of water molecule more than the polarity of ammonia.
2. Stopping the manufacturing of concord aeroplanes.
3. Alkali metals are kept under kerosene.
4. Petrified woods are considered fossils although they look like rocks.

Question 2

A Write the scientific term :

1. The safe area established to protect endangered species in their homeland.
2. The scientist who discovered the presence of protons in the nucleus.
3. Elements that have the properties of metals and nonmetals.
4. An apparatus used to measure the altitude from Earth's surface.

B Compare between :

1. Troposphere and stratosphere. (Two points only)
2. Metal oxides and nonmetal oxides. (Solubility in water and its effect on litmus paper)

Question 3

A Choose the correct answer :

1. An element of four energy levels and its outer most energy level contains two electrons, its atomic number is
 a. 16 b. 12 c. 18 d. 20
2. The sum of protons and neutrons of the element ${}_3\text{X}^7$ is
 a. 10 b. 6 c. 7 d. 4

3. When sodium react with water gas evolve.

a. CO_2

b. H_2

c. Cl_2

d. N_2

4. All of the following are natural disasters that threaten living organizing except

a. floods.

b. volcanoes.

c. drought waves.

d. global warming.

B Mention the importance of :

1. Liquid sodium.

2. Cobalt 60

3. Van-Allen belts.

4. Nummulite fossils.

Question 4

A Write the balanced equations the express the following reactions :

1. Copper with dilute hydrochloric acid.

2. Decomposing the acidified water by electricity.

B Mention one example for : 1. Endangered plants.

2. Extinct bird.

C Put (✓) or (✗), then correct the wrong ones :

1. Pilots prefer to fly their planes in troposphere.

()

2. Dinosaur's teeth are considered as petrified remains.

()

3. Gram is the measuring unit of the atomic radius of an atom.

()

4. Metals oxides are basic oxides.

()

9

Giza Governorate

South Giza Directorate
Salah Salem. Lang. School

Answer the following questions :

Question 1

A Complete the following statements :

1. The strongest metal is , while the strongest nonmetal is

2. Water and are polar compounds, while hydrogen sulphide and are non-polar compounds.

3. During electrolysis of acidified water gas evolves above anode, while gas evolves above cathode.

4. The hottest atmospheric layer is , but all weather changes occur in layer.

5. From the reasons of recent extinction are and

B Mention one importance of :

1. Fossils.
2. Ozone gas.
3. Altimeter.
4. Cobalt 60.

C Calculate the temperature at a height 3 km if you know that the temperature at the sea level is 26°C.**Question 2****A** Give reasons for each of the following :

1. The atomic size **increases** by increasing the atomic number in the same group.
2. Water is used to **put off** fires.
3. Pilots prefer to fly their aeroplane in the lower part of stratosphere.
4. Extinction of **dodo** bird.
5. Ozone hole **increases** in September each year.
6. El Mokattam Mountain was a part of sea floor.

B What is meant by ...? 1. Atmospheric pressure. 2. Picometer.**C** Give one example of :

1. Alkaline earth metal.
2. Greenhouse gas.
3. Endangered organism.
4. Micro fossil.

Question 3**A** Write the scientific term of the following :

1. The ecosystem that contain few numbers of living organisms and severely affected by extinction of any organism.
2. Losing parts of ozone layer due to the pollutants.
3. Traces or remains of old living organisms preserved in sedimentary rocks.
4. Group of elements lie in the middle of modern periodic table.
5. Any addition in water that change its properties and affect the health of living organisms.
6. Safe areas established for the endangered species in their homeland.

B Compare between :

1. Mesosphere and thermosphere (height - importance)
2. Basic and acidic oxide (example - effect on two litmus paper)

C Locate the position of the following elements in the modern period table :

1. $^{23}_{11}\text{Na}$
2. $^{20}_{10}\text{Ne}$

Question 4

A Put (✓) or (✗), then correct the wrong ones :

1. The elements of group (7A) are called **alkaline** metals. ()
2. Tasmanian cat is a mid way between **horse** and zebra. ()
3. Bald eagle lost its nests after building of **high** dam. ()
4. The atmospheric pressure decreases **as the** height above sea level increases. ()
5. Ultraviolet rays have thermal effect, **but infrared** rays have chemical effect. ()
6. Index fossils indicate the age of **sedimentary** rocks. ()

B Show by balanced equation :

1. Burning of magnesium ribbon in presence of oxygen.
2. Reaction between halogen with metallic element.

10

Giza Governorate

Science Orientation Office

Answer the following questions :

Question 1

A Complete the following statements :

1. Mendeleev arranged the elements **ascendingly** according to , while **Moseley** arranged them ascendingly according to
2. Archaeopteryx represents the link between and
3. Fossils are used in exploration and determining the age of

B Locate the position of the following elements in the modern periodic table :

1. ${}^2\text{He}$
2. ${}_{20}\text{Ca}$

C Calculate the height of a mountain if the temperature at its foot is 30°C and at its top is -9°C .

Question 2

A Choose the correct answer :

1. is considered from halogen.
 - a. Sodium
 - b. Iodine
 - c. Helium
 - d. Calcium
2. Scientist discovered the atom contains positive nucleus.
 - a. Rutherford
 - b. Mendeleev
 - c. Mosely
 - d. Hoffman

3. Sodium oxide from oxides.

- a. amphoteric b. acidic c. nonmetallic d. basic

4. All of the following elements from semimetals except for

- a. tellurium b. silicon c. boron d. chlorine

5. The strongest nonmetal lies in the group.

- a. 2A b. 1A c. 1B d. 7A

6. Ozone layer is measured by a unit called

- a. km b. Dobson c. UV d. mm^3

7. All are greenhouse gases except

- a. CO_2 b. O_2 c. N_2O d. CH_4

8. protectorate is the first established natural protectorate in Egypt.

- a. Saint Cathrine b. Ras Mohamed c. Wadi Hetan d. Petrified forest

B What is the important of ?

1. Aneroid.

2. Ionosphere.

Question 3

A Write down the scientific term of the following :

1. A molecule is formed from combining an atom of an element to a molecule of the same element.
2. Continuous increase of the average temperature of the air near the surface of the Earth.
3. Atmospheric layer in which meteors are formed.
4. One of the atmosphere components that its ratio increased in recent years to reach about 0.038%.
5. A type of ultraviolet radiation that is absorbed completely (100%) in the Ozone layer.
6. Remains of old organisms that lived in the past for a certain period and then became extinct.
7. Replacing, part by part, the wood material of trees by silica to form petrified woods.

B Write the balanced chemical equations which express reaction of :

1. Magnesium oxide with water.
2. Sodium with water.

Question 4

A Exclude the unsuitable word and mention what the rest has in common :

1. Dodo / Quagga / Bald eagle / Tasmanian cat.
2. Panda / Rhinoceros / Golden frog / Bald eagle.

B Choose from column (B) what suits in column (A) :

(A)	(B)
Probably harm	Responsible pollutant
1. Death of brain cells	a. Lead.
2. Cancer of liver	b. Sodium.
3. Blindness	c. Mercury.
	d. Arsenic.

C Give reasons for each of the following :

1. Elements of group (1A) called alkali metals.
2. Water has neutral effect on litmus paper.
3. Radioactive cobalt is used in preservation of food.

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Giza Governorate

Science Inspection

Answer the following questions :

Question 1

A Complete the following statements :

1. Archaeopteryx represents a link between and
2. Ultraviolet radiation has a effect, and the infrared radiation has effect.
3. If the atomic number of element X equals 12, so the atomic number of the element which following it in the same period is and the element follow it in the same group is
4. The highest temperature layer in the atmosphere is and the lowest temperature one is
5. Elements of group 1A are called, while elements of group 7A are called

B Mention the importance of each of the following :

1. Liquefied nitrogen.
2. Van-Allen belts.
3. Altimeter.

C If the temperature at the top of mountain is Zero°C find its height if the temperature at its foot is 39°C.

Question 2

A Choose the correct answer :

1. The is an example of microfossils.
 - a. Mammoth
 - b. ferns
 - c. foraminifera
 - d. Archaeopteryx
2. In the same period, the element that has the highest electronegativity lies in group
 - a. zero
 - b. 7A
 - c. 2A
 - d. 1A
3. Meteors are formed in
 - a. mesosphere
 - b. ionosphere
 - c. exosphere
 - d. stratosphere
4. All the following are greenhouse gases except
 - a. CO₂
 - b. O₂
 - c. N₂O
 - d. CH₄
5. indicates the presence of petroleum.
 - a. Fossils
 - b. Protectorate
 - c. Evolution
 - d. Ecological equilibrium
6. The most metallic element in the periodic table is
 - a. Na
 - b. K
 - c. F
 - d. Cs

B Give reasons for each of the following :

1. In the same period the atomic size decrease by increasing atomic number.
2. The lower part of stratosphere is suitable for flying planes.

C What happens when ?

1. The water temperature decrease to 4°C.
2. Absence of ionosphere.

Question 3

A Write the scientific term of the following :

1. The process of replacing part by part the wood material by silica.
2. The series in which metals are arranged in descending order according to their chemical activity.
3. The weak electrostatic attraction between water molecules.

4. The death of all members of species of **living** organisms.
5. The block that is found below the **modern** periodic table.
6. The measuring unit of atomic radius.

B Write the balanced chemical equation for :

1. Reaction of carbon dioxide with water.
2. Magnesium with dilute hydrochloric acid.

C Compare between troposphere and stratosphere. (concerning temperature and thickness)

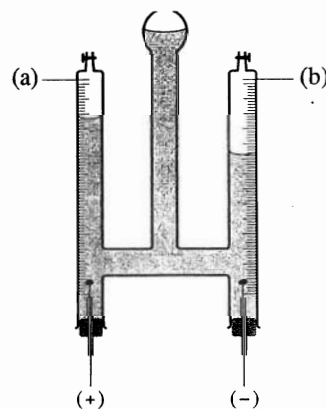
Question 4

A Correct the underlined word :

1. Dodo bird is from endangered species.
2. Fluorine is the only liquid halogen.
3. Mammoth is considered an example of a solid cast.
4. Sodium causes death of brain cells.
5. Elements are arranged in Mendeleev periodic table according to atomic number.
6. Sodium chloride is from polar covalent compound.

B Look at the opposite figure, then answer :

1. What is name of this device ?
2. Write the balanced chemical equation of this reaction.
3. Write the labels :
 - a. gas.
 - b. gas.



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Qaliubya Governorate

 Obour Educational Directorate
 Al-Resala Language School

Answer the following questions :

Question 1

A Complete the following statements :

1. Among the pollutants of ozone layer are compounds that are used in air conditioning sets and compounds that are used in fire extinguishing.
2. and are from the most important causes of the recent extinction.

3. In an ammonia molecule, a nitrogen **atom** attracts the electrons of the bond **more than** atom as it has higher
4. Elements of "s" block are located **on the** of the periodic table and they are arranged in groups.
5. Increasing the mercury concentration in drinking water causes, while arsenic increases the infection rate by

B Write one importance of each of the following :

1. Ozone layer.
2. Altimeter.
3. Fossils.

Question 2

A Write the scientific term for each of the following :

1. They are safe areas established to **protect** endangered species in their homeland.
2. An atom of nonmetallic element that **gains** one or more electrons during chemical reactions.
3. Two magnetic belts help in **scattering the** harmful cosmic radiation away from the Earth.
4. It is a series in which metals are **arranged** in a descending order according to their chemical activity.
5. Arrangement of the elements in an **ascending** order according to their atomic weight.

B Complete the following equations :

1. $\text{Cl}_2 + 2 \text{KBr} \longrightarrow \dots + \dots$
2. $\dots \xrightarrow{\text{UV}} \text{CFCl}_2 + \dots$
3. $\text{CO}_2 + \text{H}_2\text{O} \longrightarrow \dots$

Question 3

A Choose the correct answer :

1. The scientist had discovered **the** main energy level.
 - a. Rutherford
 - b. Bohr
 - c. Hoffmann
 - d. Moseley
2. All the following elements are metalloids except
 - a. tellurium
 - b. silicon.
 - c. boron.
 - d. bromine.
3. Pilots prefer to fly planes in the layer.
 - a. thermosphere
 - b. mesosphere
 - c. troposphere
 - d. stratosphere

4. Panda bear became extinct due to

- a. weakens the reproduction rates.
- b. overhunting.
- c. its short legs.
- d. (a) & (b).

5. All are green gases except

- a. CO_2
- b. N_2O
- c. CH_4
- d. Cl_2

B Problem :

If the temperature at the sea level is 39.5°C . Find the temperature at the top of mountain of height 3 km above the sea level.

C Mention 2 properties for halogens.

Question 4

A Put (✓) or (x), then correct the wrong ones :

- 1. Moseley classified elements of each main group into two subgroups. ()
- 2. Oxygen gas evolves on reaction of sodium with water. ()
- 3. Archaeopteryx fossil is considered a link fossil between birds and amphibians. ()
- 4. Water density increases on freezing. ()
- 5. Extinction of some polar animals is one of the negative effects of ozone erosion phenomenon. ()

B What is meant by ?

- 1. Atmospheric pressure.
- 2. The moment of extinction.
- 3. Hydrogen bond.

Question 5

A Give reasons for each of the following :

- 1. Petrified wood are considered from fossils although they look like rocks.
- 2. Cobalt 60 is used in food preservation.
- 3. Water is a polar compound.
- 4. Increasing in CO_2 gas ratio in the atmosphere.

B Locate the position of the following in the modern periodic table :

- 1. P_{15}
- 2. Ne_{10}

C What will happen in the following ?

1. Storing water in plastic bottles.
2. Dipping old insects in resinous materials of old pine trees.

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Alexandria Governorate

Agamy Educational Zone
Experimental Science Inspectorate

Answer the following questions :

Question 1

A Complete the following statements :

1. Mendeleev organized the element according to the similarity in
2. The density of air on the top of a mountain is than the density of air at the Earth's surface.
3. The valency of alkaline metal elements is
4. The suitable medium to form a mammoth fossil is
5. The elements which has the lowest electronegativity lie in group and the highest lie in group

B Calculate the height of a mountain if the temperature at its foot is 24°C and at its top is 11°C .

C Write the balanced chemical equation which represents the reaction of magnesium oxide with water.

Question 2

A Write the scientific term :

1. The atmospheric envelope layer that contains a certain amount of helium and hydrogen.
2. The block contains the group transition elements.
3. Charged layer reflects radio waves.
4. The continuous decrease without compensation in the number of a certain species of living organisms until all members die out.
5. Continuous increase of the average temperature of the near the surface of the Earth.

B What is meant by metaloids ?

C Put (✓) or (x) in front of each statement :

1. Bohr had discovered main energy levels. ()
2. The ozone layer lies in the troposphere layer. ()
3. The halons are produced from the burning of supersonic air planes fuel. ()

Question 3

A Give reasons for each of the following :

1. Although sugar is a covalent compound, it dissolves in water.
2. Ozone hole increases in September each year on South Pole.

B Explain the behaviour of the following elements with water :

1. Zinc.
2. Copper.
3. Sodium.

C The elements ¹⁰Y from the elements of the modern periodic table find :

1. The electronic configuration.
2. The number of period.
3. The number of group.

Question 4

A Choose the correct answer :

1. The unit of measuring the degree of Ozone layer is
 a. km b. liter c. Dobson d. cm
2. All the following gases are green house gases except
 a. CO₂ b. O₂ c. CH₄ d. N₂O
3. from positively charged ions when they enter in chemical reaction.
 a. Inert gases b. Halogens c. Nonmetals d. Alkalie metals
4. Meteors are formed in
 a. mesosphere b. ionosphere c. exosphere d. stratosphere
5. in its salt solution.
 a. Iodine replaces fluorine b. Bromine replaces fluorine
 c. Iodine replaces chlorine d. Chlorine replaces bromine
6. Hydrogen element belongs to
 a. group 1A b. group 2A c. zero group d. group 3 A

B Mention the pollutants of ozone hole.

C Arrange the atmospheric layers ascending according to the thickness.

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Alexandria Governorate

Montazah Educational Zone
Frontiers Language School

Answer the following questions :

Question 1**A** Choose the correct answer :

- The element which its atomic number 18 is
a. transitional element b. inert gas
c. metallic element d. halogen element.
- The device used in measuring the atmospheric pressure is
a. voltameter b. barometer c. hydrometer d. micrometer
- The density of ice is than the density of water.
a. less b. more c. equal d. (a) , (b)
- Ozone layer is found in the
a. troposphere b. stratosphere c. mesosphere d. thermosphere
- The block which contain groups 1A, 2A in the periodic table is
a. s b. p c. d d. f
- form positivity charged ions when they enter the chemical reactions.
a. Inert gases b. Nonmetals c. Halogen d. Alkaline earth metals

B Mention one importance of : 1. Altimeter. 2. Ozone layer.**Question 2****A** Write the scientific term :

- The vertical column in Mendeleev's table.
- A kind of oxides reacts as basic or acidic oxides according to the reaction conditions.
- The ability of the atom in covalent molecule to attract the chemical bond electrons to it.
- The traces and remains of old living organisms which are preserved in the sedimentary rocks.

B Mention one difference between each of :

- Natural and industrial water pollutants.
- The mammoth and amber fossils.

Question 3

A Put (✓) or (x), then correct the wrong ones :

1. Hoffman's voltameter **apparatus** is used in the electrolysis of **water**. ()
2. Methyl Bromide is used **in** **extinguishing** fires. ()
3. 50% of the mass of the **atmospheric** envelope is in some area **between** sea level and 3 km elevation. (/)
4. Each main energy level **contains** a number of sublevels. ()

B Locate the following elements in the modern periodic table :



C Correct the underlined words :

1. Petrified wood is considered from rocks.
2. The strongest nonmetal element locate at group 1A.

Question 4

A Give reasons for each of the following :

1. Pure water doesn't affect the litmus paper.
2. Silicon slides are used **in** **making** computers.
3. Elements of group (1A) **are** known as alkali metals.
4. Pilots prefer to fly in the lower part of stratosphere.

C Complete the following sentences :

1. $2\text{H}_2\text{O} \xrightarrow{\text{electrolysis}}$ +
2. When the snails shell **decomposes**, it will leave which carries the details of the snail.
3. The electronegativity in periods from left to right, while it in groups from up to down.
4. From the harmful effect of far and medium ultraviolet radiations on amphibians are and

15

Sharkia Governorate

Educational Directorate

Answer the following questions :

Question 1

A Complete the following statements :

1. The modern periodic table consists of horizontal periods which represent the number of
2. Most weather features occur in layer whereas satellites swim through the layer.
3. Resinous is secreted from trees which were common during some
4. Among the pollutants of ozone layer are compounds that are used in air conditioning.
5. The measuring unit of atomic size of atom is
6. From the harmful effects of far and medium ultraviolet rays on Human are
7. Metal oxides are oxides, while nonmetal oxide are oxides.

B Give an example for the following :

1. Green house gases.
2. Fossil of complete body.

C If the temperature at the sea level is 20.6°C . Find the temperature at the top of a mountain of height 2 km above earth's surface.

Question 2

A Choose the correct answer :

1. The scientist who discovered the main energy levels is
a. Mendeleev. b. Bohr. c. Moseley. d. Rutherford.
2. The element which its atomic number is (11) is similar in its chemical construction to the element which its atomic number is
a. 2 b. 7 c. 9 d. 19
3. Meteors are burnt in the layer
a. troposphere. b. stratosphere. c. mesosphere. d. thermosphere.
4. The device used in measuring the altitude from the Earth surface is
a. altimeter. b. aneroid. c. barometer. d. (a) and (b).
5. The strongest alkaline Earth metal in reaction with water is
a. magnesium b. calcium c. barium. d. sodium.
6. Fossils are often found in rocks.
a. metamorphic b. sedimentary c. volcanic d. igneous

B What is meant by ?

1. Chemical activity series.
2. Metalloids.

C The element ($^{35}_{17}\text{Y}$) from elements of the periodic table, Find the atomic number of :

1. The element before it in the same period.
2. The element before it in the same group.

Question 3

A Write the scientific term :

1. The boundary separating between stratosphere and mesosphere where temperature rather constant.
2. The ability of the atom in the covalent molecule to attract the electrons to it.
3. A kind of elements symbolized by letter (B).
4. Mixing of animal and man wastes with water.
5. The block that contains the groups from 3A to 7A.
6. Non-flying bird which became extinct.

B What is the importance of ... ?

1. The two Van Allen's belts.
2. Natural protectorate.

C Compare between :

1. Alkali metals and Alkaline Earth metals.
2. Single covalent bond and hydrogen bond in water.

Question 4

A Give reasons for each of the following :

1. Elements of the same group have similar properties.
2. Removing trees of tropical forests is one of the most important factors of extinction.
3. Ammonia is considered a polar covalent compound.
4. Sodium and potassium are very active metals.

B Locate the position of the following elements in the modern periodic table :

1. $^{20}_{20}\text{Ca}$
2. $^{15}_{15}\text{P}$
3. $^{10}_{10}\text{Ne}$

C Write the symbolic chemical equation which expresses the following reaction :

1. Bromine with potassium iodide.
2. Sodium with diluted hydrochloric acid.
3. Water electrolysis.

16

Kafr El-Sheikh Governorate

Science Supervision

Answer the following questions :

Question 1

A Complete the following statements :

1. Scientist discovered the main energy levels in the atom.
2. The modern periodic table consists of horizontal periods and vertical groups.
3. The aneroid is used to
4. The second layer of the atmospheric envelope is called
5. The ozone is measure by a unit called

B What is the importance of the following ...?

1. Liquefied nitrogen.
2. Methyl bromide.

Question 2

A Write the scientific term :

1. A bond that exists between water molecules.
2. Charged layer reflects radio waves.
3. Elements that have both properties of metal and nonmetal.
4. The ascending order of the elements according to their atomic number.
5. A phenomenon looks like a colorful light curtains seen in the two poles.
6. A kind of elements in which their valency electrons contain more than four electrons.

B Give reasons for each of the following :

1. The lower part of the stratosphere is suitable for flying of airplanes.
2. The use of radioactive Co_{60} in food preservation.

Question 3

A Mention four factors causing extinction of species.

B Problem : Calculate the height of a mountain if the temperature at its base is (30°C) and at its top is (-9°C).

Question 4

A Put (✓) or (✗), then correct the wrong ones :

1. Scientists **classified** the elements in order to **facilitate** **their** study. ()
2. Wind moves **from** regions of high pressure to **regions of** low pressure. ()
3. The number of electrons in positive ions is **greater than that** of its atom. ()
4. The altimeter is a device used to measure the altitude of planes on knowledge of atmospheric pressure. ()
5. $\text{CFCI}_3 \xrightarrow{\text{UV}} \text{CFCI}_2 + \text{Cl}$ ()
6. The scientist Moseley arranged elements ascendingly according their atomic mass. ()

B Choose the correct answer :

1. is considered from halogens.
a. Sodium b. Chlorine c. Helium d. Calcium
2. When sodium reacts with water, gas evolves.
a. O_2 b. CO_2 c. H_2 d. N_2
3. The oxide which dissolves in water and produces an acid is
a. MgO b. FeO c. CuO d. CO_2
4. The transitional elements start to appear from the beginning of the period.
a. second b. third c. fourth d. fifth

17

Menofia Governorate

El-Sadat Directorate

Answer the following questions :

Question 1

A Choose the correct answer :

1. form positively charged ions when they inter in a chemical reaction.
a. Alkalie metals b. Inert gases c. Halogens d. Nonmetals
2. Mendeleev arranged elements a scendingly according to their
a. atomic number. b. atomic weight. c. neutrons number. d. protons number.
3. Meteors are formed in
a. exosphere b. thermosphere c. mesosphere d. stratosphere

4. From common recently extinct species is (are)

- a. dodo bird.
- b. passenger pigeons.
- c. golden frog.
- d. all the previous.

B The element ($_4Y$) is from the elements of the periodic table find :

- 1. Its electronic distribution.
- 2. The group number and period number.
- 3. The atomic number of element following it in the same period.
- 4. The atomic number of element following it in the same group.

C Mention one difference between each of the following :

- 1. Alkali metals and Alkaline earth metals.
- 2. Troposphere and stratosphere.

Question 2

A Complete each of the following :

- 1. Halogens elements lie in the group.
- 2. The standard atmospheric pressure at the sea level is millibar.
- 3. To have a complete body fossil it must be buried rapidly as soon as it is dead in a medium of to protecting it from

B Give reasons for each of the following :

- 1. Liquefied nitrogen is used in preserving cornea.
- 2. The lower part of stratosphere layer is suitable for airplanes.
- 3. Nummulites are considered as an index fossil.
- 4. Sodium is kept in kerosene.

C Mention the negative effects of global warming phenomenon.

Question 3

A Write the scientific term :

- 1. The hottest atmospheric layer.
- 2. The traces and remains of living organisms which are kept in sedimentary rocks.
- 3. It is used inside the refrigerator to get rid of any undesirable odour.
- 4. The process that converting the molecules of some covalent compounds into ions.

B Write the chemical equation that represents the following :

1. Dissolving of **magnesium oxide** in water.
2. The reaction **between** chlorine gas and potassium **bromide**.
3. The reaction of copper with dilute hydrochloric acid.

C To whom are these achievements attributed :

1. He discovered that the nucleus contains positively charged protons.
2. He added zero group to periodic table.
3. The discovery of the existence of two magnetic belts around the Earth.

Question 4

A Correct the underlined words :

1. The mold is dying out of all members of species of living organisms:
2. The electronegativity values increase in the groups as the atomic number increase.
3. From harmful effects of far and medium ultraviolet rays on humans are spoil eggs and upsetting the photosynthesis process.

B What is the results of ?

1. Water density decreases on freezing.
2. Storing tap water in plastic bottles.

C Mention the importance of fossils.

18

El Gharbia Governorate

Central Science Supervision

Answer the following questions :

Question 1

A Complete each of the following :

1. Moseley put and series below periodic table.
2. is the third atmospheric layer with thickness about
3. Water is good polar solvent for most and for some of which form hydrogen ponds with water.
4. + 2 KI \longrightarrow 2KBr +
5. and are examples of endangered animals.

B Give reasons for each of the following :

1. Methane is **not** considered a polar compound.
2. Amber is **considered** a suitable medium for formation of complete body fossils.
3. It is difficult to identify metalloids by knowing their atomic configuration.

C Find the temperature at a point of height 10000 meters above the sea level if the temperature at the sea level is 24°C .

Question 2

A Write the scientific term :

1. A unit used for measuring ozone degree.
2. The process of converting the molecules of some covalent compounds into ions.
3. The continuous decrease in the number of the same species of a living organism, without compensation, until they all die out.
4. The region where the atmospheric envelop merges with the outer space.
5. The element which has the highest electronegativity.

B What happens when ?

1. There is no ionosphere layer at the end of thermosphere layer.
2. Adding the violet litmus solution to magnesium oxide.
3. Infrared radiation don't reemit back from troposphere layer.

C What is meant by ? :

1. Petrified fossil.
2. Electronegativity.

Question 3

A Correct without changing the underlined in the following statements :

1. The halons are produced from supersonic airplanes.
2. Archaeopteryx fossil is the link between mammals and birds.
3. Halogens are divalent metals.
4. The elements are arranged descendingly according to their atomic weight in Moseley periodic table.

B Write the balanced chemical equations which express the following reactions :

1. Carbon dioxide with water.
2. Magnesium with dilute hydrochloric acid.

C Mention one use for each of the following :

1. Aneroid.
2. Cobalt 60

Question 4

A Explain how can you differentiate between magnesium oxide and sulphur oxide.
(Support your answer by chemical equations if possible).

B Mention an example for each of the following :

1. Microfossil.
2. An endangered plant.
3. Green house gases.

C What is the importance of ...?

1. The two Van Allen's belts.
2. Natural protectorate.
3. The index fossils.
4. Nummulites fossils in Mokattam mountain.

19

Port Said Governorate

Educational Directorate

Answer the following questions :

Question 1

A Complete each of the following :

1. $\text{Mg} + 2\text{HCl} \longrightarrow \dots + \dots$
2. Fossils are used in exploration and determining the age of rocks.
3. There are bonds between water molecules. And water has effect on litmus paper.
4. and are examples of microfossils.

B If the temperature at the base of a mountain is 20.6°C how much is the temperature at the top if the mountain height is 8862 m ?

C Give reasons for each of the following :

1. Pilots prefers flying in the lower of stratosphere ?
2. Rhinoceros is an endanger animal.
3. The use of radioactive cobalt 60 in food preservation.

Question 2

A Write the scientific term :

1. The ability of the atom in the covalent molecule to attract the chemical bond electrons to it.
2. Continuous decreases in numbers of species members without compensation until all die out.
3. They are metals that react in high temperature with only hot water vapour.
4. Safe area established to protect species that face danger in their home land.

B 1. During the electrolysis of acidified water by using Hofmann's voltmeter calculate the volume of the gas that evolved at the anode if the volume of the gas that evolved on cathode is 40 cm^3 ?

2. Write the balanced chemical equations which express the following reactions :

1. Electrolysis of water.
2. Passing chlorine gas in potassium bromide solution.

C Compare between basic oxide and acidic oxide.

Question 3

A Choose from column (B) what suits in column (A) :

(A)	(B)
1. Death of brain cells.	a. Mercury.
2. Cancer of liver.	b. Sodium.
3. Blindness.	c. Lead.
4. Separation of dissolved oxygen	d. Arsenic.
	e. Water thermal pollution.

B Classify these land animals into extinct or endangered species :

Panda bear – Golden frog – Ibis bird – passenger pigeon.

C Correct the underlined words :

1. Elements of group 1A are known as inert gas.
2. Quagga is an extinct animals that has a wolf's head, a dog tail and a tiger's skin.

3. **Chemical pollution** of water causes **many** diseases as typhoid and haplites.
4. **Cesium** is the least metallic element in group 1A.

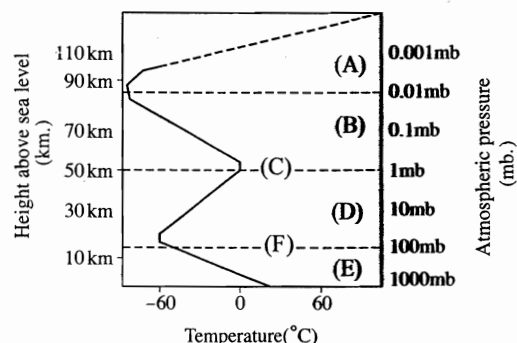
Question **4**

A Choose the correct answer :

1. The atomic number of an element that lies in period 4 and group 2 A.
 - a. 4
 - b. 18
 - c. 20
 - d. 30
2. Complete body fossils of insects are **found** preserved in
 - a. amber
 - b. snow
 - c. ocean
 - d. milk
3. is result(s) from the burning of **fuel** of ultrasound airplane (concord).
 - a. Methyl bromide
 - b. Halons
 - c. Freon
 - d. Nitrogen **oxides**
4. s-Block elements are arranged into groups.
 - a. 3
 - b. 2
 - c. 6
 - d. 10

B The opposite figure exhibits the temperature changes in the layers of atmospheric envelope.

Replace the letters on the drawing with suitable labels.



C What is meant by ?

1. Atmospheric pressure.
2. Petrified fossils.
3. Global warming.

20

Suez Governorate

Suez Educational Zone

Answer the following questions :

Question **1**

A Complete the following statements :

1. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly according to
2. The alkali metal element are valent.
3. The d-block contains elements.

4. The thickness of troposphere is about

5. Halogens elements lie in the group.

B Locate the position of the following element in the modern periodic table :

1. $_{10}\text{Ne}$

2. $_{20}\text{Ca}$

C Mention one difference between each of : Simple and complicated ecosystem.

Question 2

A Write the scientific term :

1. Charged layer reflects radiowaves.
2. Remains of old organisms that lived in the past for a certain period and then became extinct.
3. A kind of elements in which their valency electrons contain less than 4 electrons.
4. A phenomenon that increases the percentage of carbon dioxide and leads to an increase in temperature.
5. A layer of the atmospheric envelope in which air moves vertically.
6. Safe places are specialized for protecting endangered species in their original inhabitant.

B Write the balanced chemical equations which express reaction of :

1. Magnesium with dil. hydrochloric acid.
2. Carbon dioxide with water.

Question 3

A Choose the correct answer :

1. There are bonds between the water molecule.
a. hydrogen b. covalent c. ionic d. metallic
2. Scientist discovered the main energy levels in the atom.
a. Bohr b. Mendeleev c. Moseley d. Hoffman
3. Normal atmospheric pressure equals millibar.
a. 1013.25 b. 76 c. 1.013 d. 760
4. Complete fossils of insects are found preserved in
a. ammonites. b. amber. c. igneous rocks. d. ambergris.
5. protectorate is the first established natural protectorate in Egypt.
a. Saint Catharine b. Ras Mohamed c. Wadi Hetan d. Petrified forest

6. The number of negative electrons in the normal state equals

- number of protons.
- number of neutrons.
- twice the number of protons.
- half the number of neutrons.

7. Mention one use : 1. Cobalt 60. 2. Satellites.

8. Calculate the height of a mountain if the temperature at its foot is 20°C and its top is -6°C .

Question 4

9. Correct the underlined words :

- Each period end with a nonmetal.
- The elements of the 1st group (1A) are known as alkaline earth metals.
- The trace is what the living organism leave after its death in the sedimentary.
- The immigrating pigeon is from the birds that can't fly because of its small wings.
- Petrified wood is considered from rocks.

10. Give reasons for each of the following :

- The lower part of the stratosphere is suitable for flying airplanes.
- Liquidified nitrogen is used in preservation of cornea of the eye.

11. What are the results of water is polluted by the wastes of man and animal.

12. Find a suitable word and mention what the rest has in common :

- Dodo – Quagga – Bald eagle – Tasmanian cat.
- Panda – Rhinoceros – Golden frog – Bald eagle.

21

Ismailia Governorate

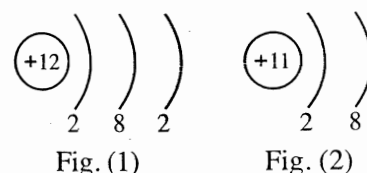
Ministry of Education

Answer the following questions :

Question 1

13. Look at the opposite figure, then answer :

- Which one of the two figures represents a (+ve) ion ?
- Which one of the two figures represents a neutral atom ?
- Indicate the position of the atom in the periodic table (period and group).



B Complete the following :

1. The ozone layer disperses the rayes away from the Earth's surface.
2. $\text{Cl}_2 + 2\text{NaBr} \longrightarrow \dots + \text{Br}_2$
3. Quagga is considered the midway between and
4. Element of s.block are located on the of the periodic table and they are arranged in groups.

C Compare between :

1. Basic oxides and acidic oxides.
2. Mesosphere and troposphere in terms of temperature and structure.

Question 2**A Write the scientific term :**

1. The continuous decrease in the number of a certain species of living organisms.
2. The separating layer between stratosphere and mesosphere.
3. Is the ability of an atom in the covalent compound to attract the electrons of the chemical bond to itself.
4. The halogen which exist in a liquid state.
5. An endangered animal that feeds on bamboo plant.

B Mention the importance of :

1. Liquid sodium.
2. Index fossil.
3. Altimeter.

C What is meant by ?

1. Chemical activity series.
2. Atmospheric pressure.

Question 3**A Choose the correct answer :**

1. Greenhouse effect explains
 - a. erosion of ozone layer.
 - b. global warming phenomenon.
 - c. a new way of agriculture.
 - d. water evaporation.
2. There are bonds among the water molecules.
 - a. metallic
 - b. hydrogen
 - c. ionic
 - d. covalent

3. The element that lies in the same period with $_{12}\text{Mg}$ is

- a. $_{15}\text{P}$ b. $_{7}\text{N}$ c. $_{20}\text{Ca}$ d. $_{3}\text{Li}$

4. Rain, wind and clouds occur in layer.

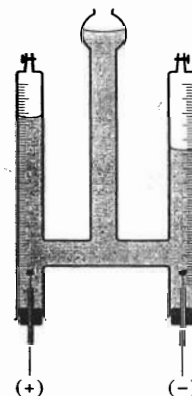
- a. mesosphere b. stratosphere c. thermosphere d. troposphere

5. From common recently extinct species is/are

- a. dodo bird b. quagga
c. golden frog d. all the previous answer

B The opposite figure represents Hofmann's voltameter which is used in water electrolysis :

1. Write the chemical equation which express the reaction.
2. What is the volume of the gas which burns with a pop sound on approaching a glowing splint to it, it is the volume of the other gas is 6 cm^3 .



C Calculate the temperature at the base of a mountain its height is 8000 m. and the temperature at its top is 20°C .

Question 4

A Give reasons for each of the following :

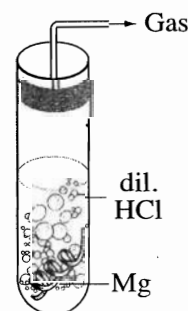
1. Hunting of Tasmanian cat by the farmers.
2. Fluorine (F) is considered one of the strongest nonmetallic elements.
3. Water is one of the most important liquids which are used to put out fires.
4. The use of radioactive Co_{60} in food preservation.

B From the opposite figure, answer the following :

1. Write the symbolic balanced chemical equation.
2. Write the name and the chemical symbol of the evolved gas.

C Correct the underlined words :

1. Ozone layer is measured by a unit called nanometer.
2. Chemical pollution of water causes many diseases as typhoid and hepatitis.
3. Rutherford discovered the main energy levels.
4. Archaeopteryx links between reptiles and mammals.



22

Damietta Governorate

Inspector of Science
Official Language Schools

Answer the following questions :

Question 1**A** Choose the correct answer :

- The modern periodic table consists of horizontal periods.
a. 7 b. 10 c. 14 d. 16
- The element whose atomic number (18) is
a. transition element. b. inert gas. c. metallic element. d. halogen element.
- All of the following gases are greenhouse gases except
a. CO_2 b. O_2 c. N_2O d. CH_4
- Fossils are found in rocks.
a. metamorphic b. sedimentary c. igneous d. volcanic
- is an example of microfossils.
a. Mammoth b. Ferns c. Foraminifera d. Archaeopteryx

B Calculate the atomic number for an element locate in third period and group 7A.**C** What will happen in each of the following :

- Increase in the concentration of mercury in drinking water.
- The absence of one type of species from the simple ecosystem.

Question 2**A** Give reasons for each of the following :

- Dodo bird was an easy target for hunters.
- Pilots prefer to fly their planes in stratosphere.
- Cobalt 60 is used in preservation of food.
- Ionosphere is important for radio station.

B Locate the position of the following elements in modern periodic table :1. ${}_7\text{N}$ 2. ${}_{20}\text{Ca}$ **Question 3****A** Write the scientific term :

- Elements of d-block in the modern periodic table.

2. Elements which have properties of metals and nonmetals.

- 3. Safe places that are specified to protect the endangered species in their original inhabitant.
- 4. An extinct animal has a wolf's head, a dog's tail and a tiger's skin.
- 5. A unit used for measuring ozone degree.

B Mention one importance for the following :

- 1. Silicon.
- 2. Halons.
- 3. Aneroid.

C Mention one difference only between : Troposphere and thermosphere.

Question 4

A Complete the following :

- 1. is formed by the combination of three active oxygen atoms.
- 2. Ultraviolet radiation has effect and infrared radiation has effect.
- 3. $2\text{Na} + \dots \longrightarrow 2\text{NaOH} + \text{H}_2$
- 4. $\text{Cl}_2 + 2\text{KBr} \longrightarrow \dots + \dots$
- 5. 1 bar = millibar.

B What is meant by ? :

- 1. Van-Allen belts.
- 2. Polar compounds.
- 3. Extinction.

23

Fayoum Governorate

Inspector of Science
Official Language Schools

Answer the following questions :

Question 1

A Complete the following :

- 1. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly according to
- 2. The strongest metal lies in the group while the strongest nonmetal lies in the group.
- 3. The highest temperature layer in the atmosphere is and the least temperature one is
- 4. Archaeopteryx represents the link between and

B What is meant by ?

1. Chemical activity series.
2. Global warming.
3. Extinction.

C What is the importance of ?

1. Liquefied nitrogen.
2. Altimeter.
3. Coral fossil.

Question 2

A Correct the underlined words in the following statements :

1. Each period in the modern periodic table starts with semimetal element.
2. Sodium oxide from acidic oxides.
3. Meteors burn in stratosphere.
4. Ozone layer is measured by a unit called km.

B Mention one difference between each of :

1. Flourine molecule and helium molecule.
2. Troposphere and stratosphere.
3. Simple and complicated ecosystems.

C Locate the position of the following elements in the modern periodic table :

1. $_{10}\text{Ne}$
2. $_{19}\text{K}$
3. $_{16}\text{S}$

Question 3

A Write the scientific term for each of the following statements :

1. Safe areas established to protect endangered species in their homeland.
2. The ability of an atom in the covalent compound to attract the bonded electrons to itself.
3. Phenomenon, which appears as brightly coloured light curtains at both the North and South poles of the Earth.
4. Apparatus is used in the electrolysis of water.

B Choose the correct answer :

1. All the following elements from semimetals except for
 a. tellurium. b. silicon. c. boron. d. bromine.
2. indicate (s) extinction.
 a. Fossils b. Protectorates
 c. Evolution d. Ecological equilibrium

3. The elements of group (17) are called

- a. alkali metals.
- b. halogens.
- c. inert gases.
- d. alkaline Earth metals.

4. All are greenhouse gases **except**

- a. CO_2
- b. O_2
- c. N_2O
- d. CH_4

C What are the results of ... ?

1. Storing water in plastic **bottles** of mineral water.
2. Chlorofluorocarbon **compounds** increase in atmosphere.

Question 4

A Give reasons for each of the following :

1. Alkali metals are kept **under kerosene** in the lab.
2. The lower part of the **stratosphere** is suitable for flying airplanes.
3. The bald eagle is one of **the endangered species**.

B Write the balanced chemical equations which express reaction of :

1. Carbon dioxide with water.
2. The reaction between **chlorine** gas and potassium bromide.
3. The electrolysis of water.

C If the temperature at the base of mount Everest is 20°C , How much is the temperature at its top if the mountain height is 13000 m. ?

D To who are these works/achievements attributed ?

1. The discovery that the **nucleus** of the atom contains positively charged protons.
2. The discovery of the existence of two magnetic belts around planet Earth.

Answer the following questions :

Question 1

A Complete the following statement :

1. The electronegativity in the modern table increases from to inside the same group.

2. Archaeopteryx represents the link between and
3. The highest temperature layer in the atmosphere is and the least temperature one is
4. The elements of group (7A) are called while, elements of group (1A) are called

B Locate the position of these elements in the modern periodic table :

1. ${}_{19}\text{K}$

2. ${}_{15}\text{P}$

Question 2

A Give reasons for each of the following :

1. Water molecules is from the polar molecules.
2. Stop building concord air planes.
3. The dodo bird is an easy target to hunt.
4. Alkali metals are kept under kerosene in the lab.

B Calculate the Earth's temperature if the temperature is 2°C at 2km. high of a mountain.

Question 3

A Write the scientific term :

1. The traces that indicate the activity of the living organism during their life.
2. Two magnetic belts help in dispersing the harmful cosmic radiation away from the Earth.
3. The block that contains the series of lanthanides and actinides.
4. The places that are specified to protect the endangered species in the their natural environment.

B Mention one difference between :

1. Altimeter and aneroid (in the view of their usage).
2. Simple and complicated ecosystem (in the view of their definition).

Question 4

A Choose the correct answer :

1. Meteors are burnt in layer.
 - a. thermosphere
 - b. mesosphere
 - c. stratosphere
2. All of the following are endangered species except
 - a. Panda.
 - b. Quagga.
 - c. Rhinoceros.

3. The standard atmospheric pressure at the sea level is Millibar.
 - a. 76
 - b. 1013.25
 - c. 1300
4. The element which its atomic number (18) is
 - a. transition element.
 - b. inert gas.
 - c. halogen element.
5. is used as a cooling substance in air conditioning sets.
 - a. Nitrogen oxide
 - b. Halons
 - c. Freon

B Correct the underlined words :

1. Rutherford discovered the main energy levels.
2. Petrified wood is considered from rocks.
3. Nonmetals oxides as considered basic oxides.

C Write the chemical equation representing the following :

1. Dissolving of magnesium oxide in water.
2. The reaction of chlorine gas with potassium bromide.

25

El-Minia Governorate

Official Language Schools Direction

Answer the following questions :

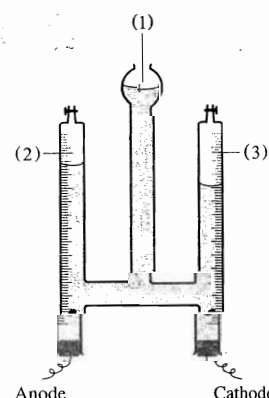
Question 1

A Put (✓) in front of the right statement and (x) in front of the wrong one :

1. The chemical elements have been categorized in a table to ease its study. ()
2. Water and ammonia are from polar compounds. ()
3. Lithium is the most active metal in group (1 A). ()
4. Mesosphere is the coldest layer in the atmospheric envelope. ()
5. The ozone layer permits the passage of all near and far ultraviolet rays. ()

B The opposite figure, represents Hofmann's voltameter which is used in water electrolysis :

1. Write the chemical equation which expresser the reaction.
2. Calculate the volume of the gas that evolves at the anode if the volume of the gas that evolves at the cathode is 8 cm³.
3. What is the name of gas evolved at (Anode), (Cathode)



C Mention an example of each of the following :

1. Microfossils.
2. Endangered plant.

Question 2

A Locate the position of the following elements in the modern periodic table :

1. ${}_{19}\text{X}$
2. ${}_{10}\text{Y}$
3. ${}_{14}\text{Z}$

B Give reasons for each of the following :

1. Mendeleev left gaps (empty slots) in his periodic table.
2. Sodium and potassium are kept under surface of kerosene.
3. Ionosphere is important for radio stations.
4. Dodo bird was an easy target for hunters.

C What is meant by each of the following :

1. Rid lest.
2. Mold.
3. Water pollution.

Question 3

A Choose the correct answer :

1. The elements which occupy the middle block (d) in periodic table are called elements.
 - a. transition
 - b. alkali
 - c. alkaline Earth
 - d. noble
2. Elements of group (7A) are known as
 - a. inert gases.
 - b. alkali.
 - c. alkaline Earth metals.
 - d. halogens.
3. All of the following diseases are caused by biological pollution except diseases.
 - a. cancer
 - b. bilharzia
 - c. hepatitis
 - d. typhoid
4. Ozone degree is measured in a unit called
 - a. km.
 - b. Dobson.
 - c. mm^2 .
 - d. nm.
5. Complete body fossil of insects are found preserved in
 - a. ammonites.
 - b. amber.
 - c. igneous rocks.
 - d. ambergris.
6. Chlorine replaces in its salt solutions.
 - a. iodine
 - b. fluorine
 - c. bromine
 - d. (a) and (c)

B Find temperature at a point at the height 1000 meters above sea level if temperature at sea-level is 25°C .

C Mention one difference between :

1. Metals and nonmetals.
2. Simple ecosystem and complicated ecosystem.

Question 4

A Write the scientific term of each of the following :

1. The ability of the atom in covalent molecule to attract the electrons of the chemical bond towards itself.
2. A copy of the original internal details of a skeleton of once an old living organism.
3. The continuous decrease in the number of the same species of living organism without compensation, until they all die out.
4. They are elements which have properties of both metals and nonmetals.
5. It is the weight of air column of an atmospheric height on a unit area (1 m^2).

B What happens when ...?

1. Absence of hydrogen bounds between water molecules.
2. Adding dil. HCl to a piece of copper.
3. Meteors move with very high velocity in Mesosphere layers.

C Choose from column (B) what suits in column (A) :

(A)	(B)
1. Panda.	a. Sidney Zoo
2. Passenger pigeon.	b. North America
3. Quagga.	c. Wadi Hetan
4. Tasmanian.	d. South Africa
	e. Northeast China

Answer the following questions :

Question 1

A Write the scientific term :

1. The curved lines that join the points of equal pressure in the atmospheric pressure maps.

2. A series in which metal are arranged in descending order according to their chemical activity.
3. The elements which occupy the middle block (d) in the periodic table.
4. Safe areas to protect species that face danger in their homeland.
5. It is the weight of air column of an atmospheric height on a unit.

B 1. Problem :

Locate the position of the following elements in the modern periodic table : $_{10}\text{Ne}$ - $_{19}\text{K}$

2. Find the temperature at height 3 km above sea level if the temperature at sea level is 32.5°C .

C What's meant by ... ?

1. Water pollution.
2. Aurora.

Question 2

A Complete the following :

1. Archaeopteryx represents the link between and
2. There are bonds in water molecule, while there are bonds between water molecules.
3. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly according to
4. Ultraviolet radiation has a effect and the infrared radiation has a effect.
5. Mixing of human and animal wastes with water is pollution.
6. Ozone degree is measured by a unit called

B Show by symbolic chemical equation :

1. Dissolving magnesium oxide in water.
2. The reaction between chlorine and potassium bromide.
3. Formation ozone gas in presence of ultraviolet rays
4. Water electrolysis.

C Mention the importance of : 1. Fossils. 2. Van allen betls.

Question 3

A Give reasons for each of the following :

1. The lower part of stratosphere is suitable for flying aeroplanes.

2. Occurrence of the old extinction.

3. Liquid nitrogen is used in preservation of cornea of eye.

4. Water molecule is from polar compound.

B Give one use for each of the following :

1. Altimeter.

2. Halons.

3. Index fossils.

4. Mesosphere.

Question 4

A Choose the correct answer :

1. Each period in the modern periodic table starts with element.

a. metallic b. semi-metallic c. nonmetallic

2. Complete body fossils of insects are found preserved in

a. ammonites. b. amber. c. ambergris.

3. The strongest metal lies in group

a. 1B b. 1A c. 2A

4. The ultraviolet rays which penetrate ozone layer is

a. near. b. far. c. medium.

5. Elements of groups (17) are known as

a. alkaline earth metal. b. alkali metal. c. halogens.

6. All of the following are endangered species except

a. panda. b. bald eagle. c. quagga.

B Compare (in a table) between :

1. Basic oxide and acidic oxides.

2. Simple and complicated ecosystem.

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Answer the following questions :

Question 1

A Complete the following :

1. Mendeleev arranged the elements according to while Moseley arranged the elements according to

2. The highest temperature layer is and the least temperature one is

3. Archaeopteryx represent the link between and
4. Elements of group (1A) called, while elements of group (7A) called

B Give reasons for each of the following :

1. Pilots prefer to fly their planes in lower part of stratosphere.
2. The high boiling point of water.
3. Sodium is kept under surface of kerosene.
4. Element of the same group have similar properties.

Question 2

A Write the scientific term for each of the following :

1. It is the weight of air column of an atmosphere height on unit area.
2. The element that have the properties of both metal and nonmetal.
3. Continuous increase in the average temperature of the Earth near surface air.
4. The traces and remain of living organisms which kept in sedimentary rocks.
5. The apparatus which used for electrolysis of water.

B Locate the position of the following element in modern table :

1. Cl_{17}
2. Ne_{10}
3. Ca_{20}

C Calculate the temperature on the top of mountain of height 4 km. if the temperature at its bottom is 50°C .

Question 3

A Choose the correct answer :

1. The scientist discovered the main energy level.
 - a. Bohr
 - b. Rutherford
 - c. Moseley
2. is acidic oxide.
 - a. CO_2
 - b. MgO
 - c. Na_2O
3. Meteors are formed in layer.
 - a. exosphere
 - b. stratosphere
 - c. mesosphere
4. used in food preservation.
 - a. Cobalt 60
 - b. Silicon slides
 - c. Liquid nitrogen
5. All of the following gases are greenhouse gases expect
 - a. CH_4
 - b. O_2
 - c. CO_2
 - d. N_2O

6. is example for complete body fossil.

- a. Mammoth b. Radiolaria c. Foraminifera

7. Ozone layer is measured by unit called

- a. Km. b. Dobson. c. mm^3 .

B Write the balanced chemical equation which represent the reaction of :

1. Magnesium with dilute Hydrochloric acid.
2. Sodium with water.

Question 4

A Calculate the atomic number of the following :

1. Element located in the 3rd period and group 2A.
2. Element located in the 1st period and group 1A.

B Correct the underlined words :

1. The physical state of iodine is liquid state.
2. The strongest nonmetal element exist in group 1A.
3. The atomic radius is measure by meter.
4. Halon they are produce from burning fuel of ultrasound airplanes.

C What is the important ...?

1. Aneriod.
2. Ozone layer.

Answer the following questions :

Question 1

A Complete the following :

1. The temperature decreases by at 2 km above Earth's surface.
2. The d-block contains elements.
3. Element of group (7A) are called

B What happens when ...?

1. Passing of electric current through a Hofmann's **voltmeter** containing acidic water.
2. Dipping the old insect in amber.

Question 2**A Choose the odd word and mention the relation between the rest :**

1. $_{12}\text{Mg}$ / $_{17}\text{Cl}$ / $_{20}\text{Ca}$ / $_{4}\text{Be}$
2. Quagga / Dodo bird / Tasmanian cat / Bald eagle.
3. Methyl bromide / Carbon dioxide / Water vapour / Methane gas.
4. Silver / Sodium / Iron / Calcium.

B Mention one example of : 1. Microfossils. 2. Endangered bird.**Question 3****A Put (✓) or (✗), then correct the wrong one :**

1. 50% of the mass of the atmospheric envelope is present in the area between the sea level and 3km elevation. ()
2. Tropical forest is an example of simple ecosystem. ()
3. The world celebrates the ozone day in December of each year. ()
4. The elements with the same physical and chemical properties have been put in horizontal periods. ()

B Write the balanced chemical equation for the following reaction :

Dissolving of magnesium oxide in water.

Question 4**A What's meant by ...?** 1. Ionization. 2. Electronegativity.**B Mention the importance of each of the following :**

1. Coral fossils.
2. Ionosphere region.
3. Liquid sodium.

Answer the following questions :

Question 1

A Complete the following statement :

1. The highest temperature layer in the atmosphere
2. Halogens elements lie in the group.
3. Fossils are used in exploration and determining the age of
4. Mendeleev arranged the elements ascendingly according to , while Moseley arranged them ascendingly to

B Locate the position of the following elements in the modern periodic table :

1. ${}_3\text{Li}$

2. ${}_{18}\text{Ar}$

Question 2

A Choose the correct answer :

1. protectorate is the first established natural protectorate in Egypt.
 - a. Saint Cathrine
 - b. Ras Mohamed
 - c. Wadi Hetan
 - d. Petrified forest
2. Each period in the modern periodic table starts with element.
 - a. metallic
 - b. semimetallic
 - c. nonmetallic
 - d. inert gas
3. All are greenhouse gases except
 - a. CO_2
 - b. O_2
 - c. N_2O
 - d. CH_4
4. Meteors burn in
 - a. mesosphere.
 - b. ionosphere.
 - c. exosphere.
 - d. stratosphere.
5. All of the following are endangered species expect
 - a. panda.
 - b. bald eagle.
 - c. quagga.
 - d. rhinoceros.
6. Sodium oxide from oxides.
 - a. amphoteric
 - b. acidic
 - c. nonmetallic
 - d. basic

B Illustrate with formulas only the role of ultraviolet radiation in formation of ozone gas.

C Mention one difference between each of :

1. Flourine molecule and helium molecule.
2. Simple and complicated ecosystems.

Question 3

A Write the scientific term for each of the following :

1. A bond that exists between water molecules.
2. A bird with small wings and short legs extincted from the Indian islands.
3. Elements that have both properties of metals and nonmetals.
4. Safe places that are specified to protect the endangered species in their natural environment.
5. A type of ultraviolet radiation that is absorbed completely (100%) in the ozone layer.

B Write the chemical equations representing the following :

1. Dissolving of magnesium oxide in water.
2. The electrolysis of water.

C Give reasons for each of the following :

1. Liquefied nitrogen is used in preservation of cornea of the eye.
2. The lower part of the stratosphere is suitable for flying air planes.

Question 4

A Put (✓) in front of the right statement and /X/ in front of the wrong ones in the following.

1. The halons are produced from supersonic airplanes. ()
2. The elements of group (1A) and (2A) are good conductors for heat and electricity. ()
3. The ionosphere is surrounded by two magnetic belts known as Van alene's belt. ()
4. There are fossils of complete insects kept in amber. ()
5. Some alkalis dissolve in water forming bases. ()

B Mention one use for : 1. Satellites. 2. Cobalt 60.

C What happens in the following situations :

1. Hunting the passenger pigeon in great numbers.
2. Water is polluted by the wastes of man and animal.

Answer the following questions :

Question 1

A Complete the following :

1. The modern periodic table consist of horizontal periods and vertical groups.
2. From the extinct animals in the old ages and
3. Sodium is kept under the surface of so not to react with
4. The last level of metallic elements **contain** than four electrons , while the nonmetallic elements contain **electrons** in their last energy level.
5. Ultraviolet has effect and the **infrared** radiation has effect.

B To who these works attributed :

1. The discovery that the nucleus of the **atom** contains positively charged proton.
2. The discovery of the existence of two magnetic belt around Earth planet.

C Mention one difference between :

1. Mesosphere and thermosphere.
2. Alkali metals and alkaline Earth metal.
3. Ferns and coral fossils.

Question 2

A Choose the correct answer :

1. The is used in extinguish fire.
a. methyl bromide b. halons c. nitrogen oxide d. ultraviolet
2. The elements which its atoms number is 17 is similar in chemical construction to the elements which atomic number
a. 2 b. 7 c. 9 d. 19

3. The metal oxides are

- a. Acidic. - b. basic. c. amphoteric. d. neutral.

4. There are bond between water molecules.

- a. metallic b. ionic c. hydrogen d. neutral

5. The volume of hydrogen gas evolving from water electrolysis equals the oxygen volume.

- a. that of b. double c. half d. four times

B Write the chemical equation representing the following :

1. Dissolving of magnesium oxide with water.
2. Reaction between chlorine and potassium bromide.

C What is the important of ?

1. Altimeter.
2. Sodium.
3. Liquefied nitrogen.

Question 3

A Correct the underlined words :

1. The environmental system are safe place which are specified to protect the endangered species in their natural environments.
2. The trace is what the living organism leave after its death in sedimentary rocks.
3. The dinosaurs are the most famous extinct kinds recently.
4. Each period end with nonmetal.

B If the temperature at the base of mount Everest is 20.6°C . How much is the temperature at its top if the mountain height is 8862 m ?

C Give the reason for :

1. The dodo bird is easy target to hunt.
2. The lower part of the stratosphere layer is suitable for airplanes flying.
3. Water molecules is from the polar molecules.
4. The bald eagle is the one of the endangered species.

Question 4

Write the scientific term for the following :

1. The continuous decrease in **number** of individual from same species of **living organism** without compensation with **birthing**.
2. A phenomenon occurred due to **increases** the percentage of carbon dioxide and lead to an increase in temperature.
3. The fourth layer of the **atmospheric envelope**.
4. The ability of the atom in the **covalent molecule** to attract the **chemical bond** electron to it.
5. The block that contain the **group** from 3A to 7A.

1. Chemical activity series.
2. Index fossils.

What happens in the following situation ?

1. Water is polluted by the wastes of man and animals.
2. Put a magnesium strip inside a test tube contain oxygen.
3. The drop of water temperature to 4°C.